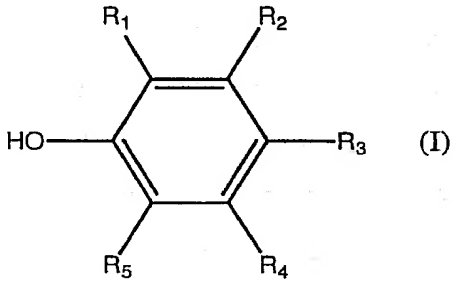
Amendments to the Claims:

The following listing of claims will replace all prior versions, and listings, of claims in the application:

1–34. (Canceled)

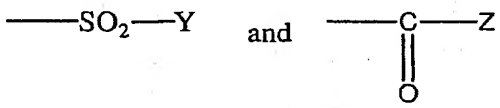
35. (Currently Amended) A ~~molecular~~ clathrate compound ~~selected from the group consisting of hydrates, solvates, adducts, and clathrate compounds~~ prepared by ~~the~~ a method of reacting an organic compound with a phenol derivative represented by Formula (I):



(I)

wherein:

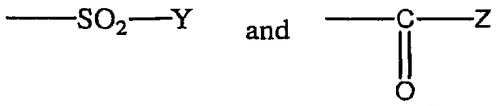
R_1 and R_5 are ~~same or different~~ independently selected from the group consisting of: hydrogen, halogen, alkyl having 1 to 4 carbons, alkenyl having 2 to 4 carbons, alkoxy having 1 to 4 carbons,



~~wherein~~ Y is selected from the group consisting of: alkyl having 1 to 8 carbons, alkenyl having 2 to 8 carbons, alkoxy having 1 to 6 carbons, substituted amino, substituted cycloalkyl, substituted phenyl, and substituted aralkyl;

Z is selected from the group consisting of: alkyl having 1 to 8 carbons, alkenyl having 2 to 8 carbons, alkoxy having 1 to 6 carbons, hydroxyl, substituted amino, substituted cycloalkyl, substituted phenyl, and substituted aralkyl;

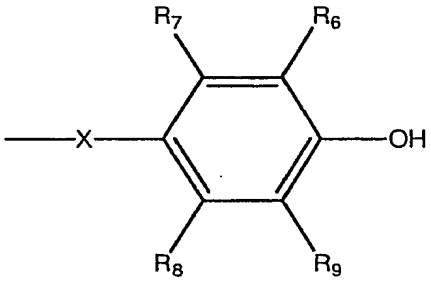
R_2 and R_4 are ~~same or different~~ independently selected from the group consisting of: hydrogen, halogen, alkyl having 1 to 4 carbons, alkenyl having 2 to 4 carbons, alkoxy having 1 to 4 carbons, and hydroxyl, or, when R_1, R_3, or R_5 is alkoxy having 1 to 4 carbons or hydroxyl, R_2 and R_4 are ~~same or different~~ independently selected from the group consisting of: hydrogen, halogen, alkyl having 1 to 4 carbons, alkenyl having 2 to 4 carbons, alkoxy having 1 to 4 carbons, hydroxyl,



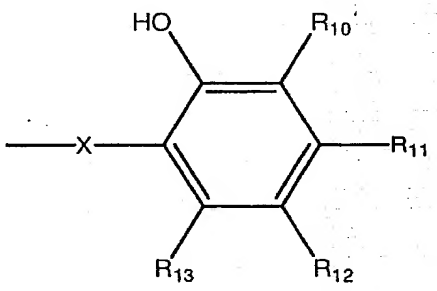
and

~~wherein Y and Z are as defined above~~;

R_3 is selected from the group consisting of: hydrogen, halogen, alkyl having 1 to 4 carbons, alkenyl having 2 to 4 carbons, alkoxy having 1 to 4 carbons, hydroxyl, Formula (II), Formula (III), $-SO_2-Y$, and $-C(=O)-Z$, ~~wherein Y and Z are as defined above,~~

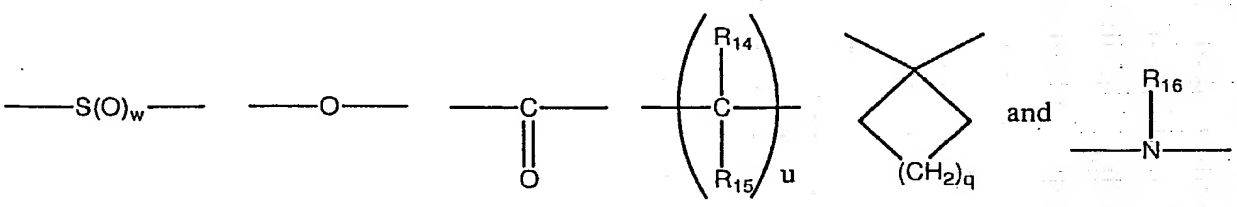


(II)



(III)

X is selected from the group consisting of:



and

~~wherein~~ w is 0, 1, or 2;

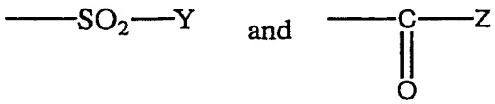
u is 0 or 1;

q is 0 to 4;

R_{14} and R_{15} are ~~same or different~~ independently selected from the group consisting of: hydrogen, halogen, alkyl having 1 to 4 carbons, alkenyl having 2 to 4 carbons, alkoxy having 1 to 4 carbons, hydroxyl, optionally substituted phenyl, and optionally substituted aralkyl;

R_{16} is selected from the group consisting of: hydrogen, alkyl having 1 to 4 carbons, alkenyl having 2 to 4 carbons, alkoxy having 1 to 4 carbons, hydroxyl, substituted phenyl, and substituted aralkyl;

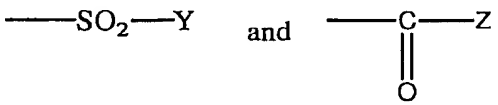
R_6, R_9, and R_{10} are ~~same or different~~ independently selected from the group consisting of: hydrogen, halogen, alkyl having 1 to 4 carbons, alkenyl having 2 to 4 carbons, alkoxy having 1 to 4 carbons, hydroxyl,



and

~~wherein Y and Z are as defined above~~;

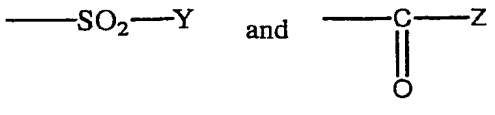
R_7, R_8, R_{11}, and R_{13} are ~~same or different~~ independently selected from the group consisting of: hydrogen, halogen, alkyl having 1 to 4 carbons, alkenyl having 2 to 4 carbons, and alkoxy having 1 to 4 carbons and hydroxyl, but when R_{12} is alkoxy having 1 to 4 carbons or hydroxyl, R_{11} is selected from the group consisting of: hydrogen, halogen, alkyl having 1 to 4 carbons, alkenyl having 2 to 4 carbons, alkoxy having 1 to 4 carbons, hydroxyl,



and

~~wherein Y and Z are as defined above~~;

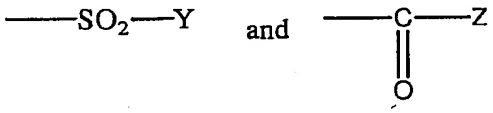
R_{12} is selected from the group consisting of: hydrogen, halogen, alkyl having 1 to 4 carbons, alkenyl having 2 to 4 carbons, alkoxy having 1 to 4 carbons, hydroxyl,



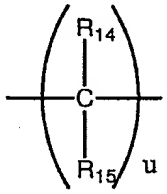
~~wherein Y and Z are as defined above,~~

provided that:

when R_3 is of Formula (II), one of R_1, R_5, R_6, and R_9 is selected from the group consisting of:

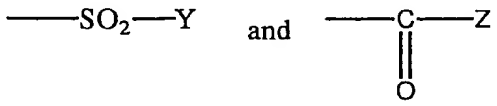


~~wherein Y and Z are as defined above,~~ in which, when X is

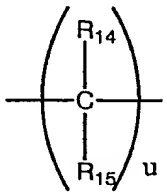


at least one of R_1, R_2, R_4, R_5, R_6, R_7, R_8, and R_9 is $-SO_2-Y$, and

when R_3 is of Formula (III), at least one of R_1, R_5, and R_{10} is selected from the group consisting of:



in which, when X is



at least one of R_1, R_2, R_4, R_5, R_{10}, R_{11}, R_{12}, and R_{13} is $-SO_2-Y$, ~~wherein Y and Z are as defined above,~~ and

when R_3 is selected from a group other than the group consisting of: Formula (II) and (III), either of R_1 or R_5 is $-SO_2-Y$;~~, wherein Y is as defined above, and~~

~~an~~ the organic compound is selected from the group consisting of: antibacterial agents, antifungal agents, insecticides, noxious insect repellants, perfumes, deodorants, antifouling agents, curing agents for coating materials, accelerators for coating materials, resins, adhesives, natural essential oils, antioxidants, and vulcanization accelerators ~~under conditions sufficient to from the molecular compound selected from the group consisting of: hydrates, solvates, adducts, and clathrate compounds having the phenol derivative as a constituent, the constituent being a host~~, and

~~the organic compound is selected from the group consisting of: alcohols: isopropanol, n-butanol, n-octanol, 2-ethylhexanol, allyl alcohol, propargyl alcohol, 1,2-butanediol, 1,3-butanediol, 1,4-butanediol, cyclohexanediol, 2-bromo-2-nitropropane-1,3-diol, 2,2-dibromo-2-nitro-ethanol and 4-chlorophenyl-3-iodopropargyl formal; aldehydes: formaldehyde, acetaldehyde, n-butylaldehyde, propionaldehyde, benzaldehyde, phthalaldehyde, alpha-bromocynnamaldehyde and phenylacetaldehyde; ketones: cyclohexanone, acetyl acetone and 2-bromo-4'-hydroxyacetophenone; nitriles: acrylonitrile, n-butylonitrile, malononitrile, phenylacetonitrile, benzonitrile, cyanopyridine, 2,2-dibromomethylglutaronitrile, 2,3,5,6-tetrachloroisophthalonitrile, 5-chloro-2,4,6-trifluoroisophthalonitrile and 1,2-dibromo-2,4-dicyanobutane; ethers: dioxolane and trioxane; esters: bis-1,4-bromoacetoxy-2-butene; sulfone amides: benzene sulfone amide; amides: dicyane diamide, dibromonitrile propionamide, 2,2-dibromo-3-nitrilo-propionamide and N,N-diethyl-m-toluamide; lactams: epsilon-caprolactam; lactones: epsilon-caprolactone; oxyranes: arylglycidyl ether; morphorines; phenols: phenol, cresol, resorcinol and p-chloro-m-cresol; carboxylic acids and thiocarboxylic acids: formic acid,~~

~~acetic acid, propionic acid, oxalic acid, citric acid, adipic acid, tartaric acid, benzoic acid, phthalic acid and salicylic acid; sulfaminic acids; thiocarbamic acids; thiosemicarbazides; ureas and thioureas: urea, phenylurea, diphenylurea, thiourea, phenylthiourea, diphenylthiourea and N,N-dimethyldichlorophenylurea; isothioureas; sulfonylureas; thiols: thiophenol, allyl mercaptan, n-butyl mercaptan and benzyl mercaptan; sulfides: benzyl sulfide and butyl methyl sulfide; disulfides: dibutyl disulfide, dibenzyl disulfide and tetramethylthiuram disulfide; sulfoxides: dimethyl sulfoxide, dibutyl sulfoxide and dibenzyl sulfoxide; sulfones: dimethyl sulfone, phenyl sulfone, phenyl (2-cyano-2-chlorovinyl) sulfone, hexabromodimethyl sulfone and diiodomethylparatolyl sulfone; thiocyanic acids and isothiocyanic acids: methyl thiocyanate and methyl isothiocyanate; amino acids: glycine, alanine, leucine, lysine, methionine and glutamine; amides and urethane compounds; acid anhydrides; alkynes; isocyanates: butyl isocyanate, cyclohexyl isocyanate and phenyl isocyanate; thiocyanates and isothiocyanates: methylene bisthiocyanate and methylene bisisothiocyanate; nitro compounds: tris(hydroxymethyl)nitromethane; non-cyclic aliphatic amines: ammonia, methylamine, ethylamine, propylamine, butylamine, pentylamine, hexylamine, allylamine, hydroxylamine, ethanolamine, benzylamine, ethylenediamine, 1,2-propanediamine, 1,3-propanediamine, 1,4-butanediamine, 1,5-pentanediamine, 1,6-hexanediamine, diethylenetriamine, triethylenetetramine, tetraethylenepentamine, dipropylenediamine, N-N-dimethylethylenediamine, N,N'-dimethylethylenediamine, N,N-dimethyl-1,3-propanediamine, N-ethyl-1,3-propanediamine, trimethylhexamethylenediamine, alkyl-t-monoamine, menthanediamine, isophoronediamine, guanidine and N-(2-hydroxypropyl)amino methanol; cyclic aliphatic amines: cyclohexylamine, cyclohexanediamine, bis(4-aminocyclohexyl)methane, pyrrolidines, azetidines, piperidines, piperadines: piperadine, N-aminoethylpiperadine and N,N'-dimethylpiperadine, and pyrrolines; aromatic amines: aniline, N-methylaniline, N,N-dimethylaniline, o-phenylenediamine, m-phenylenediamine, p-phenylenediamine,~~

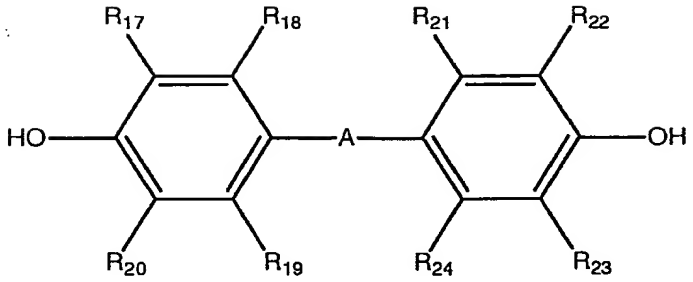
~~diaminodiphenylmethane, diaminodiphenyl sulfone and m-xylenediamine; modified polyamines: epoxy-compound-added polyamines, Micheul-added polyamines, Mannich-added polyamines, thiourea-added polyamines and ketone-blocked polyamines; imidazoles: imidazole, 2-methylimidazole, 2-ethylimidazole, 2-isopropylimidazole, 2-n-propylimidazole, 2-ethyl-4-methylimidazole, 1-benzyl-2-methylimidazole, 2-undecyl-1H-imidazole, 2-heptadecyl-1H-imidazole, 2-phenyl-1H-imidazole, 4-methyl-2-phenyl-1H-imidazole and 1-benzyl-2-methylimidazole; heterocyclic compounds containing nitrogen: pyrrole, pyridine, picoline, pyrazine, pyridazine, pyrimidine, pyrazole, triazole, benzotriazole, triazine, tetrazole, purine, indole, quinoline, isoquinoline, carbazole, imidazoline, pyrroline, oxazole, piperine, pyrimidine, piridazine, benzimidazole, indazole, quinazoline, quinoxaline, phthalimide, adenine, cytosine, guanine, uracil, 2-methoxycarbonylbenzimidazole, 2,3,5,6-tetrachloro-4-methanesulfonylpyridine, 2,2-dithio-bis-(pyridine-1-oxide), N-methylpyrrolidone, 2-benzimidazole, methyl carbamate, sodium 2-pyridinethiol-1-oxide, hexahydro-1,3,5-tris(2-hydroxyethyl)-s-triazine, hexahydro-1,3,5-triethyl-s-triazine, 2-methylthio-4-t-butylamino-6-cyclopropylamino-s-triazine, N-(fluorodichloromethylthio)phthalimide, 1-bromo-3-chloro-5,5-dimethylhydantoin, 2-methoxycarbonylbenzimidazole and 2,4,6-trichlorophenylmaleimide; heterocyclic compounds containing oxygen: furan, furfuryl alcohol, tetrahydrofurfuryl alcohol, furfurylamine, pyrane, coumarin, benzofuran, xanthene and benzodioxane; heterocyclic compounds containing nitrogen and oxygen: oxazole, isooxazole, benzoxazole, benzoisooxazole, 5-methyloxazolidine, 4-(2-nitrobutyl)morpholine and 4,4'-(2-ethyl-2-nitrotrimethylene)dimorpholine; heterocyclic compounds containing sulfur: thiophene, 3,3,4,4-tetrahydrothiophene-1,1-dioxide, 4,5-dichloro-1,2-dithiolan-3-one, 5-chrolo-4-phenyl-1,2-dithiolan-3-one and 3,3,4,4-tetrachlorotetrahydrothiophene-1,1-dioxide; heterocyclic compounds containing nitrogen and sulfur: thiazole, benzothiazole, 5-chloro-2-methyl-4-isothiazolin-3-one, 2-methyl-4-isothiazolin-3-one, 4,5-dichloro-3-n-octylisothiazolin-3-one, 2-octyl-4-isothiazolin-3-~~

~~one, 1,2 benzisothiazolin-3-one, 2-thiocyanomethylbenzothiazole, 2-(4-thiazolyl)benzimidazole and 2-thiocyanomethylbenzothiazole; steroids: cholesterol; alkaloids: brucine, quinine and theophylline; natural essential oils: cineol, hinokitiol, menthol, terpineol, borneol, nopol, citral, citronellol, citronellal, geraniol, menthone, eugenol, linalool and dimethyloctanol; synthetic perfumes: fragrant olive, jasmine and lemon; vitamins and related compounds: ascorbic acid, nicotinic acid and nicotinamide.~~

the organic compound is selected from the group consisting of alcohols, aldehydes, ketones, nitriles, ethers, esters, sulfone amides, amides, lactams, lactones, oxyranes, morphorines, carboxylic acids, thiocarboxylic acids, sulfaminic acids, thiocarbamic acids, thiosemicarbazides, ureas, thioureas, isothioureas, sulfonylureas, thiols, sulfides, disulfides, sulfoxides, sulfones, thiocyanic acids, isothiocyanic acids, amino acids, amides, urethane compounds, acid anhydrides, alkynes, isocyanates, thiocyanates, isothiocyanates, nitro compounds, non-cyclic aliphatic amines, cyclic aliphatic amines, aromatic amines, modified polyamines, imidazoles, heterocyclic compounds containing nitrogen, heterocyclic compounds containing oxygen, heterocyclic compounds containing nitrogen and oxygen, heterocyclic compounds containing sulfur, heterocyclic compounds containing nitrogen and sulfur, steroids, alkaloids, natural essential oils, synthetic perfumes, and vitamins; and

the organic compound and phenol derivative being reacted under conditions sufficient to form the clathrate compounds having the phenol derivative as a constituent, the constituent being a host.

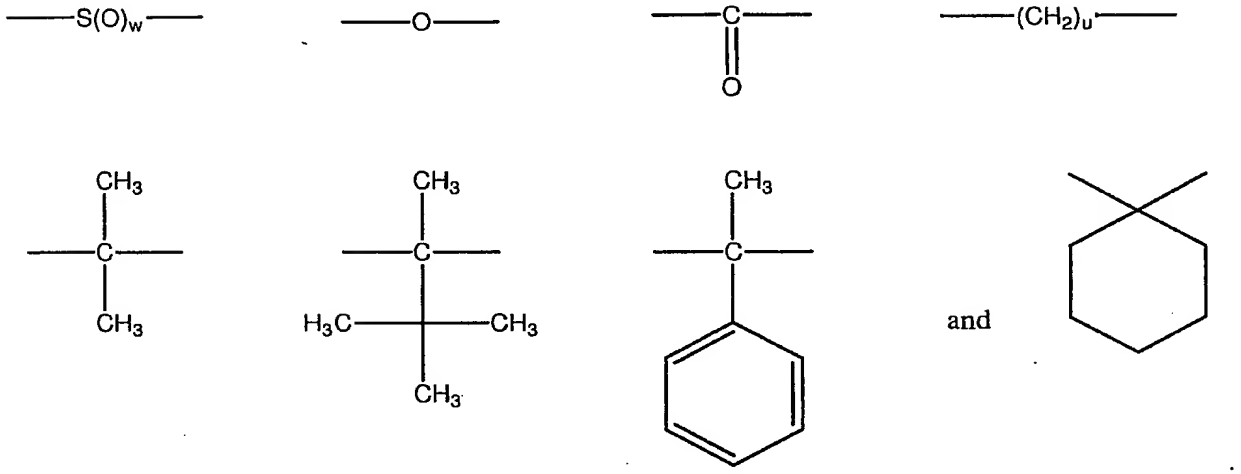
36. (Currently Amended) A ~~molecular~~ clathrate compound ~~selected from the group consisting of hydrates, solvates, adducts, and clathrate compounds~~ prepared by ~~the~~ a method of reacting an organic compound with a phenol derivative represented by Formula (IV):



(IV)

wherein:

A is selected from the group consisting of:

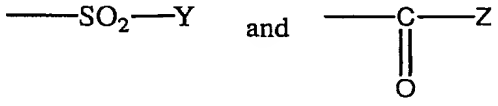


~~wherein~~ w is 0, 1, or 2; ~~and~~

u is 0 or 1;

R_{18}, R_{19}, R_{21} and R_{24} are ~~same or different~~ independently selected from the group consisting of: hydrogen, halogen, alkyl having 1 to 4 carbons and alkenyl having 2 to 4 carbons;

R_{17} is selected from the group consisting of:



~~wherein~~ Y and Z are selected from the group consisting of:

alkyl having 1 to 6 carbons,

alkenyl having 2 to 6 carbons,

cyclohexyl optionally substituted with alkyl having 1 to 4 carbons or alkenyl having 2 to 4 carbons or alkoxy having 1 to 4 carbons or hydroxyl or halogen,

cyclopentyl optionally substituted with alkyl having 1 to 4 carbons or alkenyl having 2 to 4 carbons or alkoxy having 1 to 4 carbons or hydroxyl or halogen,

phenyl optionally substituted with alkyl having 1 to 4 carbons or alkenyl having 2 to 4 carbons or alkoxy having 1 to 4 carbons or halogen,

benzyl optionally substituted with alkyl having 1 to 4 carbons or alkenyl having 2 to 4 carbons or alkoxy having 1 to 4 carbons or hydroxyl or halogen,

phenethyl optionally substituted with alkyl having 1 to 4 carbons or alkenyl having 2 to 4 carbons or alkoxy having 1 to 4 carbons or hydroxyl or halogen,

α -methylbenzyl optionally substituted with alkyl having 1 to 4 carbons or alkenyl having 2 to 4 carbons or alkoxy having 1 to 4 carbons or hydroxyl or halogen, and

naphthyl optionally substituted with alkyl having 1 to 4 carbons or alkenyl having 2 to 4 carbons or alkoxy having 1 to 4 carbons or hydroxyl or halogen;~~, and~~

R_{20}, R_{22}, and R_{23} are ~~same or different~~ independently selected from the group consisting of: hydrogen, halogen, alkyl having 1 to 4 carbons, alkenyl having 2 to 4 carbons, alkoxy having 1 to 4 carbons, $-SO_2-Y$, and $-C(=O)-Z$;~~, wherein Y and Z are as defined above, and~~

when A is $-(CH_2)_u-$, at least one of R_{17}, R_{20}, R_{22} and R_{23} is $-SO_2-Y$;~~, wherein Y is as defined above, and~~

~~an~~ the organic compound is selected from the group consisting of: antibacterial agents, antifungal agents, insecticides, noxious insect repellants, perfumes, deodorants, antifouling agents, curing agents for coating materials, accelerators for coating materials, resins, adhesives, natural essential oils, antioxidants, and vulcanization accelerators ~~under conditions sufficient to from the molecular compound selected from the group consisting of: hydrates,~~

~~solvates, adducts, and clathrate compounds having the phenol derivative as a constituent, the constituent being a host~~, and

~~the organic compound is selected from the group consisting of: alcohols: isopropanol, n-butanol, n-octanol, 2-ethylhexanol, allyl alcohol, propargyl alcohol, 1,2-butanediol, 1,3-butanediol, 1,4-butanediol, cyclohexanediol, 2-bromo-2-nitropropane-1,3-diol, 2,2-dibromo-2-nitro ethanol and 4-chlorophenyl-3-iodopropargyl formal; aldehydes: formaldehyde, acetaldehyde, n-butylaldehyde, propionaldehyde, benzaldehyde, phthalaldehyde, alpha-bromocynnamaldehyde and phenylacetaldehyde; ketones: cyclohexanone, acetyl acetone and 2-bromo-4'-hydroxyacetophenone; nitriles: acrylonitrile, n-butylonitrile, malononitrile, phenylacetonitrile, benzonitrile, cyanopyridine, 2,2-dibromomethylglutaronitrile, 2,3,5,6-tetrachloroisophthalonitrile, 5-chloro-2,4,6-trifluoroisophthalonitrile and 1,2-dibromo-2,4-dicyanobutane; ethers: dioxolane and trioxane; esters: bis-1,4-bromoacetoxy-2-butene; sulfone amides: benzene sulfone amide; amides: dicyane diamide, dibromonitrile propionamide, 2,2-dibromo-3-nitrilo propionamide and N,N-diethyl-m-toluamide; lactams: epsilon-caprolactam; lactones: epsilon-caprolactone; oxyranes: arylglycidyl ether; morphorines; phenols: phenol, cresol, resorcinol and p-chloro-m-cresol; carboxylic acids and thiocarboxylic acids: formic acid, acetic acid, propionic acid, oxalic acid, citric acid, adipic acid, tartaric acid, benzoic acid, phthalic acid and salicylic acid; sulfaminic acids; thiocarbamic acids; thiosemicarbazides; ureas and thioureas: urea, phenylurea, diphenylurea, thiourea, phenylthiourea, diphenylthiourea and N,N-dimethyldichlorophenylurea; isothioureas; sulfonylureas; thiols: thiophenol, allyl mercaptan, n-butyl mercaptan and benzyl mercaptan; sulfides: benzyl sulfide and butyl methyl sulfide; disulfides: dibutyl disulfide, dibenzyl disulfide and tetramethylthiuram disulfide; sulfoxides: dimethyl sulfoxide, dibutyl sulfoxide and dibenzyl sulfoxide; sulfones: dimethyl sulfone, phenyl sulfone, phenyl-(2-cyano-2-chlorovinyl) sulfone, hexabromodimethyl sulfone and diiodomethylparatolyl sulfone; thiocyanic acids and isothiocyanic acids: methyl thiocyanate and~~

~~methyl isothiocyanate; amino acids: glycine, alanine, leucine, lysine, methionine and glutamine; amides and urethane compounds; acid anhydrides; alkynes; isocyanates: butyl isocyanate, cyclohexyl isocyanate and phenyl isocyanate; thiocyanates and isothiocyanates: methylene bisthiocyanate and methylene bisisothiocyanate; nitro compounds: tris(hydroxymethyl)nitromethane; non-cyclic aliphatic amines: ammonia, methylamine, ethylamine, propylamine, butylamine, pentylamine, hexylamine, allylamine, hydroxylamine, ethanolamine, benzylamine, ethylenediamine, 1,2-propanediamine, 1,3-propanediamine, 1,4-butanediamine, 1,5-pentanediamine, 1,6-hexanediamine, diethylenetriamine, triethylenetetramine, tetraethylenepentamine, dipropylenediamine, N-N-dimethylethylenediamine, N,N' dimethylethylenediamine, N,N-dimethyl-1,3-propanediamine, N-ethyl-1,3-propanediamine, trimethylhexamethylenediamine, alkyl-t-monoamine, menthanediamine, isophoronediamine, guanidine and N-(2-hydroxypropyl)amino methanol; cyclic aliphatic amines: cyclohexylamine, cyclohexanediamine, bis(4-aminocyclohexyl)methane, pyrrolidines, azetidines, piperidines, piperadines: piperadine, N-aminoethylpiperadine and N,N'-dimethylpiperadine, and pyrrolines; aromatic amines: aniline, N-methylaniline, N,N-dimethylaniline, o-phenylenediamine, m-phenylenediamine, p-phenylenediamine, diaminodiphenylmethane, diaminodiphenyl sulfone and m-xylenediamine; modified polyamines: epoxy compound-added polyamines, Micheul-added polyamines, Mannich-added polyamines, thiourea-added polyamines and ketone-blocked polyamines; imidazoles: imidazole, 2-methylimidazole, 2-ethylimidazole, 2-isopropylimidazole, 2-n-propylimidazole, 2-ethyl-4-methylimidazole, 1-benzyl-2-methylimidazole, 2-undecyl-1H-imidazole, 2-heptadecyl-1H-imidazole, 2-phenyl-1H-imidazole, 4-methyl-2-phenyl-1H-imidazole and 1-benzyl-2-methylimidazole; heterocyclic compounds containing nitrogen: pyrrole, pyridine, picoline, pyrazine, pyridazine, pyrimidine, pyrazole, triazole, benzotriazole, triazine, tetrazole, purine, indole, quinoline, isoquinoline, carbazole, imidazoline, pyrroline, oxazole, piperine, pyrimidine,~~

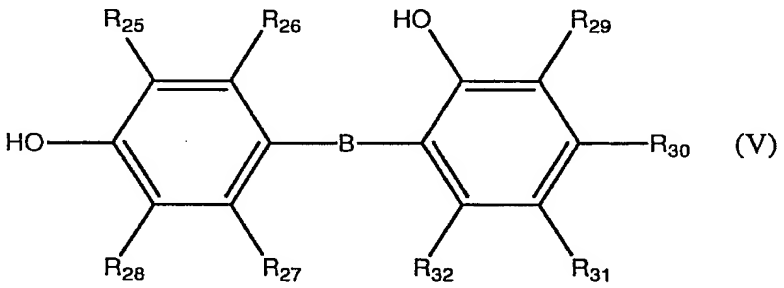
~~piridazine, benzimidazole, indazole, quinazoline, quinoxaline, phthalimide, adenine, cytosine, guanine, uracil, 2-methoxycarbonylbenzimidazole, 2,3,5,6-tetrachloro-4-methanesulfonylpyridine, 2,2-dithio-bis-(pyridine-1-oxide), N-methylpyrrolidone, 2-benzimidazole, methyl carbamate, sodium 2-pyridinethiol-1-oxide, hexahydro-1,3,5-tris(2-hydroxyethyl)-s-triazine, hexahydro-1,3,5-triethyl-s-triazine, 2-methylthio-4-t-butylamino-6-cyclopropylamino-s-triazine, N-(fluorodichloromethylthio)phthalimide, 1-bromo-3-chloro-5,5-dimethylhydantoin, 2-methoxycarbonylbenzimidazole and 2,4,6-trichlorophenylmaleimide; heterocyclic compounds containing oxygen: furan, furfuryl alcohol, tetrahydrofurfuryl alcohol, furfurylamine, pyrane, coumarin, benzofuran, xanthene and benzodioxane; heterocyclic compounds containing nitrogen and oxygen: oxazole, isooxazole, benzoxazole, benzoisooxazole, 5-methyloxazolidine, 4-(2-nitrobutyl)morpholine and 4,4'-(2-ethyl-2-nitrotrimethylene)dimorpholine; heterocyclic compounds containing sulfur: thiophene, 3,3,4,4-tetrahydrothiophene-1,1-dioxide, 4,5-dichloro-1,2-dithiolan-3-one, 5-chrolo-4-phenyl-1,2-dithiolan-3-one and 3,3,4,4-tetrachlorotetrahydrothiophene-1,1-dioxide; heterocyclic compounds containing nitrogen and sulfur: thiazole, benzothiazole, 5-chloro-2-methyl-4-isothiazolin-3-one, 2-methyl-4-isothiazolin-3-one, 4,5-dichloro-3-n-octylisothiazolin-3-one, 2-octyl-4-isothiazolin-3-one, 1,2-benzisothiazolin-3-one, 2-thiocyanomethylbenzothiazole, 2-(4-thiazolyl)benzimidazole and 2-thiocyanomethylbenzothiazole; steroids: cholesterol; alkaloids: brucine, quinine and theophylline; natural essential oils: cineol, hinokitiol, menthol, terpineol, borneol, nopol, citral, citronellol, citronellal, geraniol, menthone, eugenol, linalool and dimethyloctanol; synthetic perfumes: fragrant olive, jasmine and lemon; vitamins and related compounds: ascorbic acid, nicotinic acid and nicotinamide.~~

the organic compound is selected from the group consisting of alcohols, aldehydes, ketones, nitriles, ethers, esters, sulfone amides, amides, lactams, lactones, oxyranes, morphorines, carboxylic acids, thiocarboxylic acids, sulfaminic acids, thiocarbamic

acids, thiosemicarbazides, ureas, thioureas, isothioureas, sulfonylureas, thiols, sulfides, disulfides, sulfoxides, sulfones, thiocyanic acids, isothiocyanic acids, amino acids, amides, urethane compounds, acid anhydrides, alkynes, isocyanates, thiocyanates, isothiocyanates, nitro compounds, non-cyclic aliphatic amines, cyclic aliphatic amines, aromatic amines, modified polyamines, imidazoles, heterocyclic compounds containing nitrogen, heterocyclic compounds containing oxygen, heterocyclic compounds containing nitrogen and oxygen, heterocyclic compounds containing sulfur, heterocyclic compounds containing nitrogen and sulfur, steroids, alkaloids, natural essential oils, synthetic perfumes, and vitamins; and

the organic compound and phenol derivative being reacted under conditions sufficient to form the clathrate compounds having the phenol derivative as a constituent, the constituent being a host.

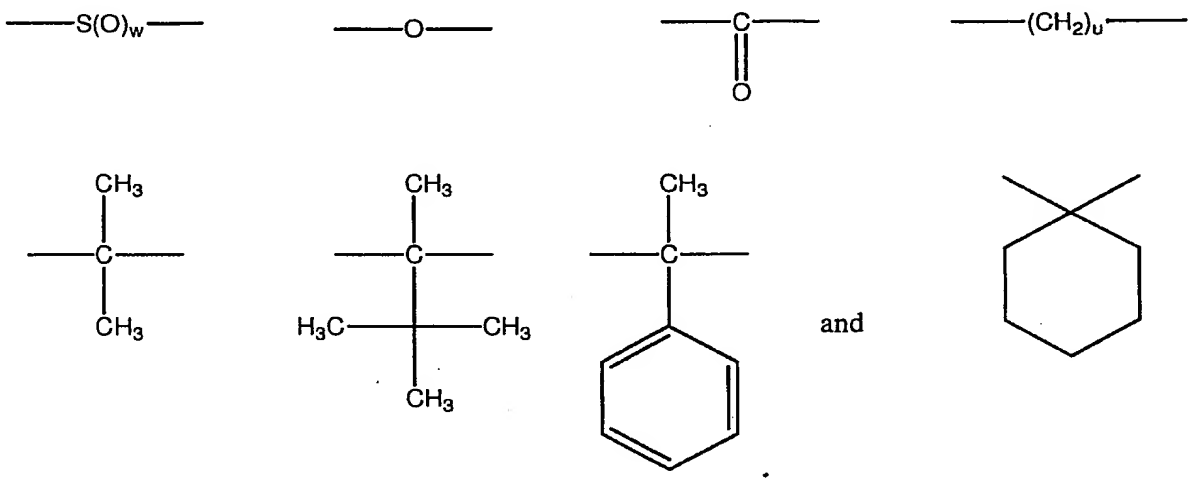
37. (Currently Amended) A ~~molecular~~ clathrate compound ~~selected from the group consisting of hydrates, solvates, adducts, and clathrate compounds~~ prepared by ~~the~~ a method of reacting an organic compound with a phenol derivative represented by Formula (V):



(V)

wherein:

B is selected from the group consisting of:

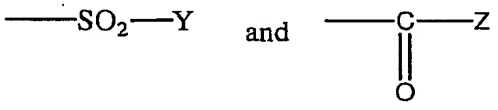


~~wherein~~ w is 0, 1, or 2; ~~and~~

u is 0 or 1;

R_{26}, R_{27}, R_{30} and R_{32} are ~~same or different~~ independently selected from the group consisting of: hydrogen, halogen, alkyl having 1 to 4 carbons, and alkenyl having 2 to 4 carbons;

R_{25}, R_{28}, R_{29} and R_{31} are ~~same or different~~ independently groups selected from the group consisting of: hydrogen, halogen, alkyl having 1 to 4 carbons, alkenyl having 2 to 4 carbons, alkoxy having 1 to 4 carbons,



~~wherein~~ Y and Z are selected from the group consisting of:

alkyl having 1 to 6 carbons,

alkenyl having 2 to 6 carbons,

cyclohexyl which may have alkyl having 1 to 4 carbons or alkenyl having 2 to 4 carbons or alkoxy having 1 to 4 carbons or hydroxyl or halogen,

cyclopentyl which may have alkyl having 1 to 4 carbons or alkenyl having 2 to 4 carbons or alkoxy having 1 to 4 carbons or hydroxyl or halogen,

phenyl which may have alkyl having 1 to 4 carbons or alkenyl having 2 to 4 carbons or alkoxy having 1 to 4 carbons or halogen,

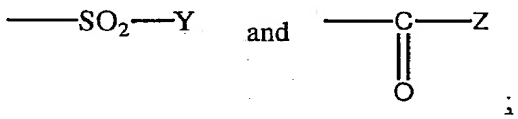
benzyl which may have alkyl having 1 to 4 carbons or alkenyl having 2 to 4 carbons or alkoxy having 1 to 4 carbons or hydroxyl or halogen,

phenethyl which may have alkyl having 1 to 4 carbons or alkenyl having 2 to 4 carbons or alkoxy having 1 to 4 carbons or hydroxyl or halogen,

α -methylbenzyl which may have alkyl having 1 to 4 carbons or alkenyl having 2 to 4 carbons or alkoxy having 1 to 4 carbons or hydroxyl or halogen, and

naphthyl which may have alkyl having 1 to 4 carbons or alkenyl having 2 to 4 carbons or alkoxy having 1 to 4 carbons or hydroxyl or halogen;~~, and~~

at least one of R_{25}, R_{28}, and R_{29} is selected from the group consisting of:



;

~~wherein Y and Z are as defined above, and~~

when B is $-(CH_2)_u-$, at least one of R_{25}, R_{28}, R_{29} and R_{31} is $-SO_2-Y$;~~ wherein Y is defined as above, and~~

~~an~~ the organic compound is selected from the group consisting of: antibacterial agents, antifungal agents, insecticides, noxious insect repellants, perfumes, deodorants, antifouling agents, curing agents for coating materials, accelerators for coating materials, resins, adhesives, natural essential oils, antioxidants, and vulcanization accelerators~~ under conditions sufficient to from the molecular compound selected from the group consisting of: hydrates, solvates, adducts, and clathrate compounds having the phenol derivative as a constituent, the constituent being a host~~, and

~~the organic compound is selected from the group consisting of: alcohols: isopropanol, n-butanol, n-octanol, 2-ethylhexanol, allyl alcohol, propargyl alcohol, 1,2-butanediol, 1,3-butanediol, 1,4-butanediol, cyclohexanediol, 2-bromo-2-nitropropane-1,3-diol, 2,2-dibromo-2-nitro-ethanol and 4-chlorophenyl-3-iodopropargyl formal; aldehydes: formaldehyde, acetaldehyde, n-butylaldehyde, propionaldehyde, benzaldehyde, phthalaldehyde, alpha-bromocynnamaldehyde and phenylacetaldehyde; ketones: cyclohexanone, acetyl acetone and 2-bromo-4'-hydroxyacetophenone; nitriles: acrylonitrile, n-butylonitrile, malononitrile, phenylacetonitrile, benzonitrile, cyanopyridine, 2,2-dibromomethylglutaronitrile, 2,3,5,6-tetrachloroisophthalonitrile, 5-chloro-2,4,6-trifluoroisophthalonitrile and 1,2-dibromo-2,4-dicyanobutane; ethers: dioxolane and trioxane; esters: bis-1,4-bromoacetoxy-2-butene; sulfone amides: benzene sulfone amide; amides: dicyane diamide, dibromonitrile propionamide, 2,2-dibromo-3-nitrilo propionamide and N,N-diethyl-m-toluamide; lactams: epsilon-caprolactam; lactones: epsilon-caprolactone; oxyranes: arylglycidyl ether; morphorines; phenols: phenol, cresol, resorcinol and p-chloro-m-cresol; carboxylic acids and thiocarboxylic acids: formic acid, acetic acid, propionic acid, oxalic acid, citric acid, adipic acid, tartaric acid, benzoic acid, phthalic acid and salicylic acid; sulfaminic acids; thiocarbamic acids; thiosemicarbazides; ureas and thioureas: urea, phenylurea, diphenylurea, thiourea, phenylthiourea, diphenylthiourea and N,N-dimethyldichlorophenylurea; isothioureas; sulfonylureas; thiols: thiophenol, allyl mercaptan, n-butyl mercaptan and benzyl mercaptan; sulfides: benzyl sulfide and butyl methyl sulfide; disulfides: dibutyl disulfide, dibenzyl disulfide and tetramethylthiuram disulfide; sulfoxides: dimethyl sulfoxide, dibutyl sulfoxide and dibenzyl sulfoxide; sulfones: dimethyl sulfone, phenyl sulfone, phenyl-(2-cyano-2-chlorovinyl) sulfone, hexabromodimethyl sulfone and diiodomethylparatolyl sulfone; thiocyanic acids and isothiocyanic acids: methyl thiocyanate and methyl isothiocyanate; amino acids: glycine, alanine, leucine, lysine, methionine and glutamine; amides and urethane compounds; acid anhydrides; alkynes; isocyanates: butyl isocyanate,~~

~~cyclohexyl isocyanate and phenyl isocyanate; thiocyanates and isothiocyanates: methylene bisthiocyanate and methylene bisisothiocyanate; nitro compounds: tris(hydroxymethyl)nitromethane; non-cyclic aliphatic amines: ammonia, methylamine, ethylamine, propylamine, butylamine, pentylamine, hexylamine, allylamine, hydroxylamine, ethanolamine, benzylamine, ethylenediamine, 1,2-propanediamine, 1,3-propanediamine, 1,4-butanediamine, 1,5-pentanediamine, 1,6-hexanediamine, diethylenetriamine, triethylenetetramine, tetraethylenepentamine, dipropylenediamine, N-N-dimethylethylenediamine, N,N'-dimethylethylenediamine, N,N-dimethyl-1,3-propanediamine, N-ethyl-1,3-propanediamine, trimethylhexamethylenediamine, alkyl-t-monoamine, menthanediamine, isophoronediamine, guanidine and N-(2-hydroxypropyl)amino methanol; cyclic aliphatic amines: cyclohexylamine, cyclohexanediamine, bis(4-aminocyclohexyl)methane, pyrrolidines, azetidines, piperidines, piperadines: piperadine, N-aminoethylpiperadine and N,N'-dimethylpiperadine, and pyrrolines; aromatic amines: aniline, N-methylaniline, N,N-dimethylaniline, o-phenylenediamine, m-phenylenediamine, p-phenylenediamine, diaminodiphenylmethane, diaminodiphenyl sulfone and m-xylenediamine; modified polyamines: epoxy compound-added polyamines, Micheul-added polyamines, Mannich-added polyamines, thiourea-added polyamines and ketone-blocked polyamines; imidazoles: imidazole, 2-methylimidazole, 2-ethylimidazole, 2-isopropylimidazole, 2-n-propylimidazole, 2-ethyl-4-methylimidazole, 1-benzyl-2-methylimidazole, 2-undecyl-1H-imidazole, 2-heptadecyl-1H-imidazole, 2-phenyl-1H-imidazole, 4-methyl-2-phenyl-1H-imidazole and 1-benzyl-2-methylimidazole; heterocyclic compounds containing nitrogen: pyrrole, pyridine, picoline, pyrazine, pyridazine, pyrimidine, pyrazole, triazole, benzotriazole, triazine, tetrazole, purine, indole, quinoline, isoquinoline, carbazole, imidazoline, pyrroline, oxazole, piperine, pyrimidine, piridazine, benzimidazole, indazole, quinazoline, quinoxaline, phthalimide, adenine, cytosine, guanine, uracil, 2-methoxycarbonylbenzimidazole, 2,3,5,6-tetrachloro-4-~~

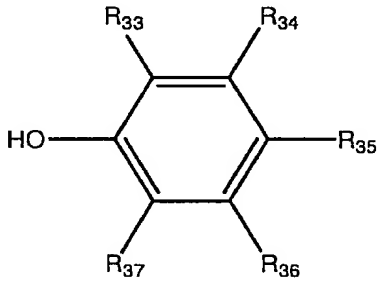
~~methanesulfonylpyridine, 2,2-dithio-bis-(pyridine-1-oxide), N-methylpyrrolidone, 2-benzimidazole, methyl carbamate, sodium 2-pyridinethiol-1-oxide, hexahydro-1,3,5-tris(2-hydroxyethyl)-s-triazine, hexahydro-1,3,5-triethyl-s-triazine, 2-methylthio-4-t-butylamino-6-cyclopropylamino-s-triazine, N-(fluorodichloromethylthio)phthalimide, 1-bromo-3-chloro-5,5-dimethylhydantoin, 2-methoxycarbonylbenzimidazole and 2,4,6-trichlorophenylmaleimide; heterocyclic compounds containing oxygen: furan, furfuryl alcohol, tetrahydrofurfuryl alcohol, furfurylamine, pyrane, coumarin, benzofuran, xanthene and benzodioxane; heterocyclic compounds containing nitrogen and oxygen: oxazole, isooxazole, benzoxazole, benzoisooxazole, 5-methyloxazolidine, 4-(2-nitrobutyl)morpholine and 4,4'-(2-ethyl-2-nitrotrimethylene)dimorpholine; heterocyclic compounds containing sulfur: thiophene, 3,3,4,4-tetrahydrothiophene-1,1-dioxide, 4,5-dichloro-1,2-dithiolan-3-one, 5-chrolo-4-phenyl-1,2-dithiolan-3-one and 3,3,4,4-tetrachlorotetrahydrothiophene-1,1-dioxide; heterocyclic compounds containing nitrogen and sulfur: thiazole, benzothiazole, 5-chloro-2-methyl-4-isothiazolin-3-one, 2-methyl-4-isothiazolin-3-one, 4,5-dichloro-3-n-octylisothiazolin-3-one, 2-octyl-4-isothiazolin-3-one, 1,2-benzisothiazolin-3-one, 2-thiocyanomethylbenzothiazole, 2-(4-thiazolyl)benzimidazole and 2-thiocyanomethylbenzothiazole; steroids: cholesterol; alkaloids: brucine, quinine and theophylline; natural essential oils: cineol, hinokitiol, menthol, terpineol, borneol, nopol, citral, citronellol, citronellal, geraniol, menthone, eugenol, linalool and dimethyloctanol; synthetic perfumes: fragrant olive, jasmine and lemon; vitamins and related compounds: ascorbic acid, nicotinic acid and nicotinamide.~~

the organic compound is selected from the group consisting of alcohols, aldehydes, ketones, nitriles, ethers, esters, sulfone amides, amides, lactams, lactones, oxyranes, morphorines, carboxylic acids, thiocarboxylic acids, sulfaminic acids, thiocarbamic acids, thiosemicarbazides, ureas, thioureas, isothioureas, sulfonylureas, thiols, sulfides, disulfides, sulfoxides, sulfones, thiocyanic acids, isothiocyanic acids, amino acids, amides,

urethane compounds, acid anhydrides, alkynes, isocyanates, thiocyanates, isothiocyanates, nitro compounds, non-cyclic aliphatic amines, cyclic aliphatic amines, aromatic amines, modified polyamines, imidazoles, heterocyclic compounds containing nitrogen, heterocyclic compounds containing oxygen, heterocyclic compounds containing nitrogen and oxygen, heterocyclic compounds containing sulfur, heterocyclic compounds containing nitrogen and sulfur, steroids, alkaloids, natural essential oils, synthetic perfumes, and vitamins; and

the organic compound and phenol derivative being reacted under conditions sufficient to form the clathrate compounds having the phenol derivative as a constituent, the constituent being a host.

38. (Currently Amended) A ~~molecular~~ clathrate compound ~~selected from the group consisting of hydrates, solvates, adducts, and clathrate compounds~~ prepared by ~~the~~ a method of reacting an organic compound with a phenol derivative represented by Formula (VI):



(VI)

wherein:

~~R_{33} is $-SO_2-Y$;~~

R_{33} is $-SO_2-Y$;

~~wherein~~ Y is selected from the group consisting of:

alkyl having 1 to 6 carbons,

alkenyl having 2 to 6 carbons,

cyclohexyl optionally substituted with alkyl having 1 to 4 carbons or alkenyl having 2 to 4 carbons or alkoxy having 1 to 4 carbons or hydroxyl or halogen,

cyclopentyl optionally substituted with alkyl having 1 to 4 carbons or alkenyl having 2 to 4 carbons or alkoxy having 1 to 4 carbons or hydroxyl or halogen,

phenyl optionally substituted with alkyl having 1 to 4 carbons or alkenyl having 2 to 4 carbons or alkoxy having 1 to 4 carbons or halogen,

benzyl optionally substituted with alkyl having 1 to 4 carbons or alkenyl having 2 to 4 carbons or alkoxy having 1 to 4 carbons or hydroxyl or halogen,

phenethyl optionally substituted with alkyl having 1 to 4 carbons or alkenyl having 2 to 4 carbons or alkoxy having 1 to 4 carbons or hydroxyl or halogen,

α-methylbenzyl optionally substituted with alkyl having 1 to 4 carbons or alkenyl having 2 to 4 carbons or alkoxy having 1 to 4 carbons or hydroxyl or halogen, and

naphthyl optionally substituted with alkyl having 1 to 4 carbons or alkenyl having 2 to 4 carbons or alkoxy having 1 to 4 carbons or hydroxyl or halogen;~~, and~~

R_{34}, R_{35}, R_{36}, and R_{37} are ~~the same or different~~ independently selected from the group consisting of: hydrogen, alkyl having 1 to 4 carbons, alkenyl having 2 to 4 carbons, alkoxy having 1 to 4 carbons, hydroxyl, halogen and $-SO_2-Y$;~~, wherein Y is as defined above, and~~

~~an~~ the organic compound is selected from the group consisting of: antibacterial agents, antifungal agents, insecticides, noxious insect repellants, perfumes, deodorants, antifouling agents, curing agents for coating materials, accelerators for coating materials, resins, adhesives, natural essential oils, antioxidants, and vulcanization accelerators~~ under conditions sufficient to from the molecular compound selected from the group consisting of: hydrates, solvates, adducts, and clathrate compounds having the phenol derivative as a constituent, the constituent being a host~~, and

~~the organic compound is selected from the group consisting of: alcohols: isopropanol, n-butanol, n-octanol, 2-ethylhexanol, allyl alcohol, propargyl alcohol, 1,2-butanediol, 1,3-butanediol, 1,4-butanediol, cyclohexanediol, 2-bromo-2-nitropropane-1,3-diol,~~

~~2,2-dibromo-2-nitro-ethanol and 4-chlorophenyl-3-iodopropargyl formal; aldehydes: formaldehyde, acetaldehyde, n-butylaldehyde, propionaldehyde, benzaldehyde, phthalaldehyde, alpha-bromocynnamaldehyde and phenylacetaldehyde; ketones: cyclohexanone, acetyl acetone and 2-bromo-4'-hydroxyacetophenone; nitriles: acrylonitrile, n-butylonitrile, malononitrile, phenylacetonitrile, benzonitrile, cyanopyridine, 2,2-dibromomethylglutaronitrile, 2,3,5,6-tetrachloroisophthalonitrile, 5-chloro-2,4,6-trifluoroisophthalonitrile and 1,2-dibromo-2,4-dicyanobutane; ethers: dioxolane and trioxane; esters: bis-1,4-bromoacetoxy-2-butene; sulfone amides: benzene sulfone amide; amides: dicyane diamide, dibromonitrile propionamide, 2,2-dibromo-3-nitrilo propionamide and N,N-diethyl-m-toluamide; lactams: epsilon-caprolactam; lactones: epsilon-caprolactone; oxyranes: arylglycidyl ether; morphorines; phenols: phenol, cresol, resorcinol and p-chloro-m-cresol; carboxylic acids and thiocarboxylic acids: formic acid, acetic acid, propionic acid, oxalic acid, citric acid, adipic acid, tartaric acid, benzoic acid, phthalic acid and salicylic acid; sulfaminic acids; thiocarbamic acids; thiosemicarbazides; ureas and thioureas: urea, phenylurea, diphenylurea, thiourea, phenylthiourea, diphenylthiourea and N,N-dimethyldichlorophenylurea; isothioureas; sulfonylureas; thiols: thiophenol, allyl mercaptan, n-butyl mercaptan and benzyl mercaptan; sulfides: benzyl sulfide and butyl methyl sulfide; disulfides: dibutyl disulfide, dibenzyl disulfide and tetramethylthiuram disulfide; sulfoxides: dimethyl sulfoxide, dibutyl sulfoxide and dibenzyl sulfoxide; sulfones: dimethyl sulfone, phenyl sulfone, phenyl-(2-cyano-2-chlorovinyl) sulfone, hexabromodimethyl sulfone and diiodomethylparatolyl sulfone; thiocyanic acids and isothiocyanic acids: methyl thiocyanate and methyl isothiocyanate; amino acids: glycine, alanine, leucine, lysine, methionine and glutamine; amides and urethane compounds; acid anhydrides; alkynes; isocyanates: butyl isocyanate, cyclohexyl isocyanate and phenyl isocyanate; thiocyanates and isothiocyanates: methylene bisthiocyanate and methylene bisisothiocyanate; nitro compounds: tris(hydroxymethyl)nitromethane; non-cyclic aliphatic amines: ammonia, methylamine,~~

~~ethylamine, propylamine, butylamine, pentylamine, hexylamine, allylamine, hydroxylamine, ethanolamine, benzylamine, ethylenediamine, 1,2-propanediamine, 1,3-propanediamine, 1,4-butanediamine, 1,5-pentanediamine, 1,6-hexanediamine, diethylenetriamine, triethylenetetramine, tetraethylenepentamine, dipropylenediamine, N-N-dimethylethylenediamine, N,N'-dimethylethylenediamine, N,N-dimethyl-1,3-propanediamine, N-ethyl-1,3-propanediamine, trimethylhexamethylenediamine, alkyl-t-monoamine, menthanediamine, isophoronediamine, guanidine and N-(2-hydroxypropyl)amino methanol; cyclic aliphatic amines: cyclohexylamine, cyclohexanediamine, bis(4-aminocyclohexyl)methane, pyrrolidines, azetidines, piperidines, piperadines: piperadine, N-aminoethylpiperadine and N,N'-dimethylpiperadine, and pyrrolines; aromatic amines: aniline, N-methylaniline, N,N-dimethylaniline, o-phenylenediamine, m-phenylenediamine, p-phenylenediamine, diaminodiphenylmethane, diaminodiphenyl sulfone and m-xylenediamine; modified polyamines: epoxy compound-added polyamines, Micheul-added polyamines, Mannich-added polyamines, thiourea-added polyamines and ketone-blocked polyamines; imidazoles: imidazole, 2-methylimidazole, 2-ethylimidazole, 2-isopropylimidazole, 2-n-propylimidazole, 2-ethyl-4-methylimidazole, 1-benzyl-2-methylimidazole, 2-undecyl-1H-imidazole, 2-heptadecyl-1H-imidazole, 2-phenyl-1H-imidazole, 4-methyl-2-phenyl-1H-imidazole and 1-benzyl-2-methylimidazole; heterocyclic compounds containing nitrogen: pyrrole, pyridine, picoline, pyrazine, pyridazine, pyrimidine, pyrazole, triazole, benzotriazole, triazine, tetrazole, purine, indole, quinoline, isoquinoline, carbazole, imidazoline, pyrroline, oxazole, piperine, pyrimidine, piridazine, benzimidazole, indazole, quinazoline, quinoxaline, phthalimide, adenine, cytosine, guanine, uracil, 2-methoxycarbonylbenzimidazole, 2,3,5,6-tetrachloro-4-methanesulfonylpyridine, 2,2-dithio-bis-(pyridine-1-oxide), N-methylpyrrolidone, 2-benzimidazole, methyl carbamate, sodium 2-pyridinethiol-1-oxide, hexahydro-1,3,5-tris(2-hydroxyethyl)-s-triazine, hexahydro-1,3,5-triethyl-s-triazine, 2-methylthio-4-t-butylamino-6-~~

~~cyclopropylamino-s-triazine, N-(fluorodichloromethylthio)phthalimide, 1-bromo-3-chloro-5,5-dimethylhydantoin, 2-methoxycarbonylbenzimidazole and 2,4,6-trichlorophenylmaleimide; heterocyclic compounds containing oxygen: furan, furfuryl alcohol, tetrahydrofurfuryl alcohol, furfurylamine, pyrane, coumarin, benzofuran, xanthene and benzodioxane; heterocyclic compounds containing nitrogen and oxygen: oxazole, isooxazole, benzoxazole, benzoisooxazole, 5-methyloxazolidine, 4-(2-nitrobutyl)morpholine and 4,4'-(2-ethyl-2-nitrotrimethylene)dimorpholine; heterocyclic compounds containing sulfur: thiophene, 3,3,4,4-tetrahydrothiophene-1,1-dioxide, 4,5-dichloro-1,2-dithiolan-3-one, 5-chrolo-4-phenyl-1,2-dithiolan-3-one and 3,3,4,4-tetrachlorotetrahydrothiophene-1,1-dioxide; heterocyclic compounds containing nitrogen and sulfur: thiazole, benzothiazole, 5-chloro-2-methyl-4-isothiazolin-3-one, 2-methyl-4-isothiazolin-3-one, 4,5-dichloro-3-n-octylisothiazolin-3-one, 2-octyl-4-isothiazolin-3-one, 1,2-benzisothiazolin-3-one, 2-thiocyanomethylbenzothiazole, 2-(4-thiazolyl)benzimidazole and 2-thiocyanomethylbenzothiazole; steroids: cholesterol; alkaloids: brucine, quinine and theophylline; natural essential oils: cineol, hinokitiol, menthol, terpineol, borneol, nopol, citral, citronellol, citronellal, geraniol, menthone, eugenol, linalool and dimethyloctanol; synthetic perfumes: fragrant olive, jasmine and lemon; vitamins and related compounds: ascorbic acid, nicotinic acid and nicotinamide.~~

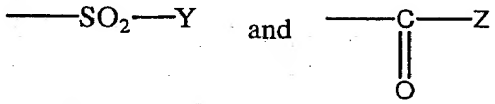
the organic compound is selected from the group consisting of alcohols, aldehydes, ketones, nitriles, ethers, esters, sulfone amides, amides, lactams, lactones, oxyranes, morphorines, carboxylic acids, thiocarboxylic acids, sulfaminic acids, thiocarbamic acids, thiosemicarbazides, ureas, thioureas, isothioureas, sulfonylureas, thiols, sulfides, disulfides, sulfoxides, sulfones, thiocyanic acids, isothiocyanic acids, amino acids, amides, urethane compounds, acid anhydrides, alkynes, isocyanates, thiocyanates, isothiocyanates, nitro compounds, non-cyclic aliphatic amines, cyclic aliphatic amines, aromatic amines, modified polyamines, imidazoles, heterocyclic compounds containing nitrogen, heterocyclic

compounds containing oxygen, heterocyclic compounds containing nitrogen and oxygen, heterocyclic compounds containing sulfur, heterocyclic compounds containing nitrogen and sulfur, steroids, alkaloids, natural essential oils, synthetic perfumes, and vitamins; and

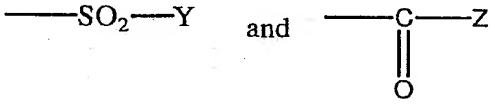
the organic compound and phenol derivative being reacted under conditions sufficient to form the clathrate compounds having the phenol derivative as a constituent, the constituent being a host.

39. (Currently Amended) The ~~molecular~~ clathrate compound according to any one of claims 35 to 38, wherein the ~~molecular~~ compound is a crystalline clathrate compound.

40. (Currently Amended) The ~~molecular~~ clathrate compound according to claim 35, wherein R_1 and R_5 are ~~the same or different~~ independently ~~and are~~ selected from the group consisting of: halogen, alkyl having 1 to 4 carbons, alkenyl having 2 to 4 carbons, alkoxy having 1 to 4 carbons,



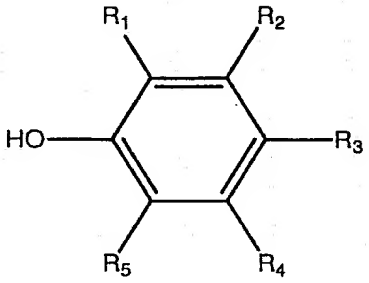
41. (Currently Amended) The ~~molecular~~ clathrate compound according to claim 35, wherein R_1 and R_5 are ~~the same or different~~ independently ~~and are~~ selected from



42. (Withdrawn-Currently Amended) A method for producing a ~~molecular~~ clathrate compound ~~selected from the group consisting of hydrates, solvates, adducts, and clathrate compounds~~, comprising:

reacting a phenol derivative with an organic compound under conditions sufficient to form the clathrate compounds having the phenol derivative as a constituent, the constituent being a host; wherein:

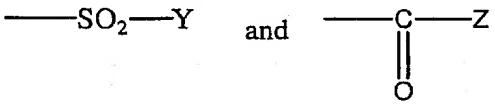
the phenol derivative is represented by Formula (I):



(I)

wherein:

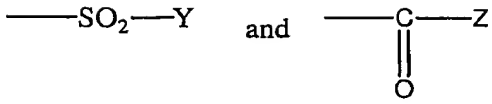
R_1 and R_5 are ~~same or different~~ independently selected from the group consisting of: hydrogen, halogen, alkyl having 1 to 4 carbons, alkenyl having 2 to 4 carbons, alkoxy having 1 to 4 carbons,



~~wherein~~ Y is selected from the group consisting of: alkyl having 1 to 8 carbons, alkenyl having 2 to 8 carbons, alkoxy having 1 to 6 carbons, substituted amino, substituted cycloalkyl, substituted phenyl, and substituted aralkyl;

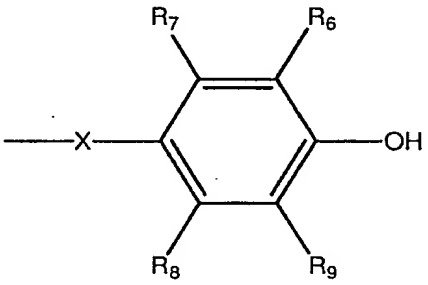
Z is selected from the group consisting of: alkyl having 1 to 8 carbons, alkenyl having 2 to 8 carbons, alkoxy having 1 to 6 carbons, hydroxyl, substituted amino, substituted cycloalkyl, substituted phenyl, and substituted aralkyl;

R_2 and R_4 are ~~same or different~~ independently selected from the group consisting of: hydrogen, halogen, alkyl having 1 to 4 carbons, alkenyl having 2 to 4 carbons, alkoxy having 1 to 4 carbons, and hydroxyl, or, when R_1, R_3, or R_5 is alkoxy having 1 to 4 carbons or hydroxyl, R_2 and R_4 are ~~same or different~~ independently selected from the group consisting of: hydrogen, halogen, alkyl having 1 to 4 carbons, alkenyl having 2 to 4 carbons, alkoxy having 1 to 4 carbons, hydroxyl,

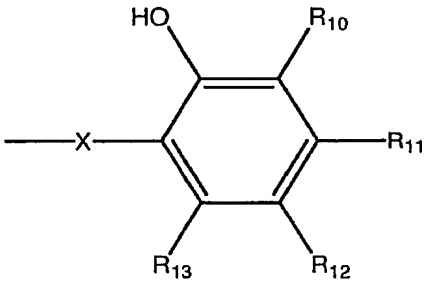


~~wherein Y and Z are as defined above~~;

R_3 is selected from the group consisting of: hydrogen, halogen, alkyl having 1 to 4 carbons, alkenyl having 2 to 4 carbons, alkoxy having 1 to 4 carbons, hydroxyl, Formula (II), Formula (III), $-SO_2-Y$, and $-C(=O)-Z$, ~~wherein Y and Z are as defined above,~~

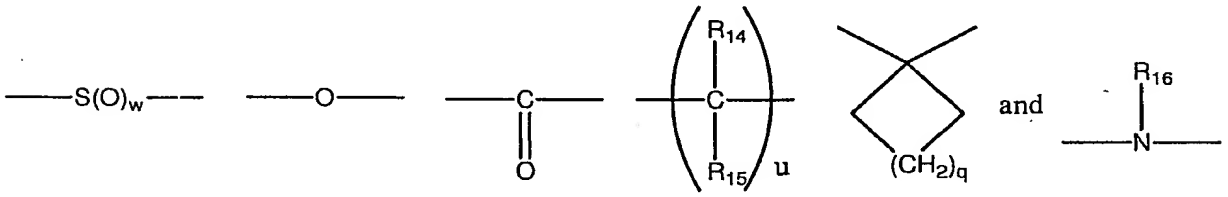


(II)



(III)

X is selected from the group consisting of:



~~wherein~~ w is 0, 1, or 2;

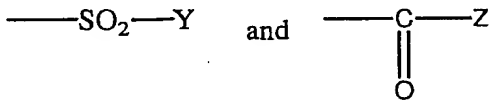
u is 0 or 1;

q is 0 to 4;

R_{14} and R_{15} are ~~same or different~~ independently selected from the group consisting of: hydrogen, halogen, alkyl having 1 to 4 carbons, alkenyl having 2 to 4 carbons, alkoxy having 1 to 4 carbons, hydroxyl, optionally substituted phenyl, and optionally substituted aralkyl;

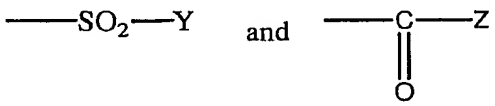
R_{16} is selected from the group consisting of: hydrogen, alkyl having 1 to 4 carbons, alkenyl having 2 to 4 carbons, alkoxy having 1 to 4 carbons, hydroxyl, substituted phenyl, and substituted aralkyl;

R_6, R_9, and R_{10} are ~~same or different~~ independently selected from the group consisting of: hydrogen, halogen, alkyl having 1 to 4 carbons, alkenyl having 2 to 4 carbons, alkoxy having 1 to 4 carbons, hydroxyl,



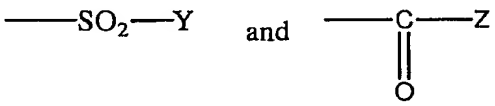
~~wherein Y and Z are as defined above~~;

R_7, R_8, R_{11}, and R_{13} are ~~same or different~~ independently selected from the group consisting of: hydrogen, halogen, alkyl having 1 to 4 carbons, alkenyl having 2 to 4 carbons, and alkoxy having 1 to 4 carbons and hydroxyl, but when R_{12} is alkoxy having 1 to 4 carbons or hydroxyl, R_{11} is selected from the group consisting of: hydrogen, halogen, alkyl having 1 to 4 carbons, alkenyl having 2 to 4 carbons, alkoxy having 1 to 4 carbons, hydroxyl,



~~wherein Y and Z are as defined above~~;

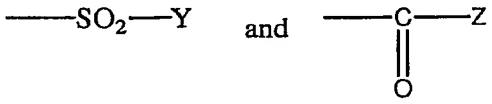
R_{12} is selected from the group consisting of: hydrogen, halogen, alkyl having 1 to 4 carbons, alkenyl having 2 to 4 carbons, alkoxy having 1 to 4 carbons, hydroxyl,



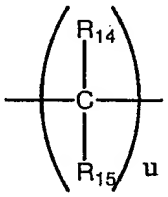
~~wherein Y and Z are as defined above,~~

provided that:

when R_3 is of Formula (II), one of R_1, R_5, R_6, and R_9 is selected from the group consisting of:

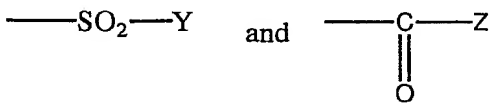


~~wherein Y and Z are as defined above,~~ in which, when X is

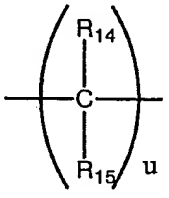


at least one of R_1, R_2, R_4, R_5, R_6, R_7, R_8, and R_9 is $-SO_2-Y$, and

when R_3 is of Formula (III), at least one of R_1, R_5, and R_{10} is selected from the group consisting of:



in which, when X is



at least one of R_1, R_2, R_4, R_5, R_{10}, R_{11}, R_{12}, and R_{13} is $-SO_2-Y$, ~~wherein Y and Z are as defined above,~~ and

when R_3 is selected from a group other than the group consisting of: Formula (II) and (III), either of R_1 or R_5 is $-SO_2-Y$; ~~wherein Y is as defined above, and~~

~~an~~ the organic compound is selected from the group consisting of: antibacterial agents, antifungal agents, insecticides, noxious insect repellants, perfumes, deodorants,

antifouling agents, curing agents for coating materials, accelerators for coating materials, resins, adhesives, natural essential oils, antioxidants, and vulcanization accelerators ~~under conditions sufficient to from the molecular compound selected from the group consisting of: hydrates, solvates, adducts, and clathrate compounds having the phenol derivative as a constituent, the constituent being a host~~, and

~~the organic compound is selected from the group consisting of: alcohols: isopropanol, n-butanol, n-octanol, 2-ethylhexanol, allyl alcohol, propargyl alcohol, 1,2-butanediol, 1,3-butanediol, 1,4-butanediol, cyclohexanediol, 2-bromo-2-nitropropane-1,3-diol, 2,2-dibromo-2-nitro ethanol and 4-chlorophenyl-3-iodopropargyl formal; aldehydes: formaldehyde, acetaldehyde, n-butylaldehyde, propionaldehyde, benzaldehyde, phthalaldehyde, alpha-bromocynnamaldehyde and phenylacetaldehyde; ketones: cyclohexanone, acetyl acetone and 2-bromo-4' hydroxyacetophenone; nitriles: acrylonitrile, n-butylonitrile, malononitrile, phenylacetonitrile, benzonitrile, cyanopyridine, 2,2-dibromomethylglutaronitrile, 2,3,5,6-tetrachloroisophthalonitrile, 5-chloro-2,4,6-trifluoroisophthalonitrile and 1,2-dibromo-2,4-dicyanobutane; ethers: dioxolane and trioxane; esters: bis-1,4-bromoacetoxy-2-butene; sulfone amides: benzene sulfone amide; amides: dicyane diamide, dibromonitrile propionamide, 2,2-dibromo-3-nitrilo propionamide and N,N-diethyl-m-toluamide; lactams: epsilon-caprolactam; lactones: epsilon-caprolactone; oxyranes: arylglycidyl ether; morphorines; phenols: phenol, cresol, resorcinol and p-chloro-m-cresol; carboxylic acids and thiocarboxylic acids: formic acid, acetic acid, propionic acid, oxalic acid, citric acid, adipic acid, tartaric acid, benzoic acid, phthalic acid and salicylic acid; sulfaminic acids; thiocarbamic acids; thiosemicarbazides; ureas and thioureas: urea, phenylurea, diphenylurea, thiourea, phenylthiourea, diphenylthiourea and N,N-dimethyldichlorophenylurea; isothioureas; sulfonylureas; thiols: thiophenol, allyl mercaptan, n-butyl mercaptan and benzyl mercaptan; sulfides: benzyl sulfide and butyl methyl sulfide; disulfides: dibutyl disulfide, dibenzyl disulfide and tetramethylthiuram disulfide; sulfoxides:~~

~~dimethyl sulfoxide, dibutyl sulfoxide and dibenzyl sulfoxide; sulfones: dimethyl sulfone, phenyl sulfone, phenyl (2-cyano-2-chlorovinyl) sulfone, hexabromodimethyl sulfone and diiodomethylparatolyl sulfone; thiocyanic acids and isothiocyanic acids: methyl thiocyanate and methyl isothiocyanate; amino acids: glycine, alanine, leucine, lysine, methionine and glutamine; amides and urethane compounds; acid anhydrides; alkynes; isocyanates: butyl isocyanate, cyclohexyl isocyanate and phenyl isocyanate; thiocyanates and isothiocyanates: methylene bisthiocyanate and methylene bisisothiocyanate; nitro compounds: tris(hydroxymethyl)nitromethane; non-cyclic aliphatic amines: ammonia, methylamine, ethylamine, propylamine, butylamine, pentylamine, hexylamine, allylamine, hydroxylamine, ethanolamine, benzylamine, ethylenediamine, 1,2-propanediamine, 1,3-propanediamine, 1,4-butanediamine, 1,5-pentanediamine, 1,6-hexanediamine, diethylenetriamine, triethylenetetramine, tetraethylenepentamine, dipropylenediamine, N-N-dimethylethylenediamine, N,N'-dimethylethylenediamine, N,N-dimethyl-1,3-propanediamine, N-ethyl-1,3-propanediamine, trimethylhexamethylenediamine, alkyl-t-monoamine, menthanediamine, isophoronediamine, guanidine and N-(2-hydroxypropyl)amino methanol; cyclic-aliphatic amines: cyclohexylamine, cyclohexanediamine, bis(4-aminocyclohexyl)methane, pyrrolidines, azetidines, piperidines, piperadines: piperadine, N-aminoethylpiperadine and N,N'-dimethylpiperadine, and pyrrolines; aromatic amines: aniline, N-methylaniline, N,N-dimethylaniline, o-phenylenediamine, m-phenylenediamine, p-phenylenediamine, diaminodiphenylmethane, diaminodiphenyl sulfone and m-xylenediamine; modified polyamines: epoxy compound-added polyamines, Micheul-added polyamines, Mannich-added polyamines, thiourea-added polyamines and ketone-blocked polyamines; imidazoles: imidazole, 2-methylimidazole, 2-ethylimidazole, 2-isopropylimidazole, 2-n-propylimidazole, 2-ethyl-4-methylimidazole, 1-benzyl-2-methylimidazole, 2-undecyl-1H-imidazole, 2-heptadecyl-1H-imidazole, 2-phenyl-1H-imidazole, 4-methyl-2-phenyl-1H-imidazole and 1-benzyl-2-~~

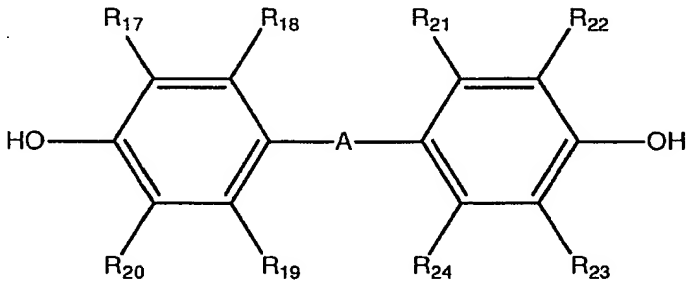
~~methylimidazole; heterocyclic compounds containing nitrogen: pyrrole, pyridine, picoline, pyrazine, pyridazine, pyrimidine, pyrazole, triazole, benzotriazole, triazine, tetrazole, purine, indole, quinoline, isoquinoline, carbazole, imidazoline, pyrroline, oxazole, piperine, pyrimidine, piridazine, benzimidazole, indazole, quinazoline, quinoxaline, phthalimide, adenine, cytosine, guanine, uracil, 2-methoxycarbonylbenzimidazole, 2,3,5,6-tetrachloro-4-methanesulfonylpyridine, 2,2-dithio-bis-(pyridine-1-oxide), N-methylpyrrolidone, 2-benzimidazole, methyl carbamate, sodium 2-pyridinethiol-1-oxide, hexahydro-1,3,5-tris(2-hydroxyethyl)-s-triazine, hexahydro-1,3,5-triethyl-s-triazine, 2-methylthio-4-t-butylamino-6-cyclopropylamino-s-triazine, N-(fluorodichloromethylthio)phthalimide, 1-bromo-3-chloro-5,5-dimethylhydantoin, 2-methoxycarbonylbenzimidazole and 2,4,6-trichlorophenylmaleimide; heterocyclic compounds containing oxygen: furan, furfuryl alcohol, tetrahydrofurfuryl alcohol, furfurylamine, pyrane, coumarin, benzofuran, xanthene and benzodioxane; heterocyclic compounds containing nitrogen and oxygen: oxazole, isooxazole, benzoxazole, benzoisooxazole, 5-methyloxazolidine, 4-(2-nitrobutyl)morpholine and 4,4'-(2-ethyl-2-nitrotrimethylene)dimorpholine; heterocyclic compounds containing sulfur: thiophene, 3,3,4,4-tetrahydrothiophene-1,1-dioxide, 4,5-dichloro-1,2-dithiolan-3-one, 5-chrolo-4-phenyl-1,2-dithiolan-3-one and 3,3,4,4-tetrachlorotetrahydrothiophene-1,1-dioxide; heterocyclic compounds containing nitrogen and sulfur: thiazole, benzothiazole, 5-chloro-2-methyl-4-isothiazolin-3-one, 2-methyl-4-isothiazolin-3-one, 4,5-dichloro-3-n-octylisothiazolin-3-one, 2-octyl-4-isothiazolin-3-one, 1,2-benzisothiazolin-3-one, 2-thiocyanomethylbenzothiazole, 2-(4-thiazolyl)benzimidazole and 2-thiocyanomethylbenzothiazole; steroids: cholesterol; alkaloids: brucine, quinine and theophylline; natural essential oils: cineol, hinokitiol, menthol, terpineol, borneol, nopol, citral, citronellol, citronellal, geraniol, menthone, eugenol, linalool and dimethyloctanol; synthetic perfumes: fragrant olive, jasmine and lemon; vitamins and related compounds: ascorbic acid, nicotinic acid and nicotinamide.~~

the organic compound is selected from the group consisting of alcohols, aldehydes, ketones, nitriles, ethers, esters, sulfone amides, amides, lactams, lactones, oxyranes, morphorines, carboxylic acids, thiocarboxylic acids, sulfaminic acids, thiocarbamic acids, thiosemicarbazides, ureas, thioureas, isothioureas, sulfonylureas, thiols, sulfides, disulfides, sulfoxides, sulfones, thiocyanic acids, isothiocyanic acids, amino acids, amides, urethane compounds, acid anhydrides, alkynes, isocyanates, thiocyanates, isothiocyanates, nitro compounds, non-cyclic aliphatic amines, cyclic aliphatic amines, aromatic amines, modified polyamines, imidazoles, heterocyclic compounds containing nitrogen, heterocyclic compounds containing oxygen, heterocyclic compounds containing nitrogen and oxygen, heterocyclic compounds containing sulfur, heterocyclic compounds containing nitrogen and sulfur, steroids, alkaloids, natural essential oils, synthetic perfumes, and vitamins.

43. (Withdrawn-Currently Amended) A method for producing a ~~molecular~~ clathrate compound ~~selected from the group consisting of hydrates, solvates, adducts, and clathrate compounds~~, comprising:

reacting a phenol derivative with an organic compound under conditions sufficient to form the clathrate compounds having the phenol derivative as a constituent, the constituent being a host; wherein:

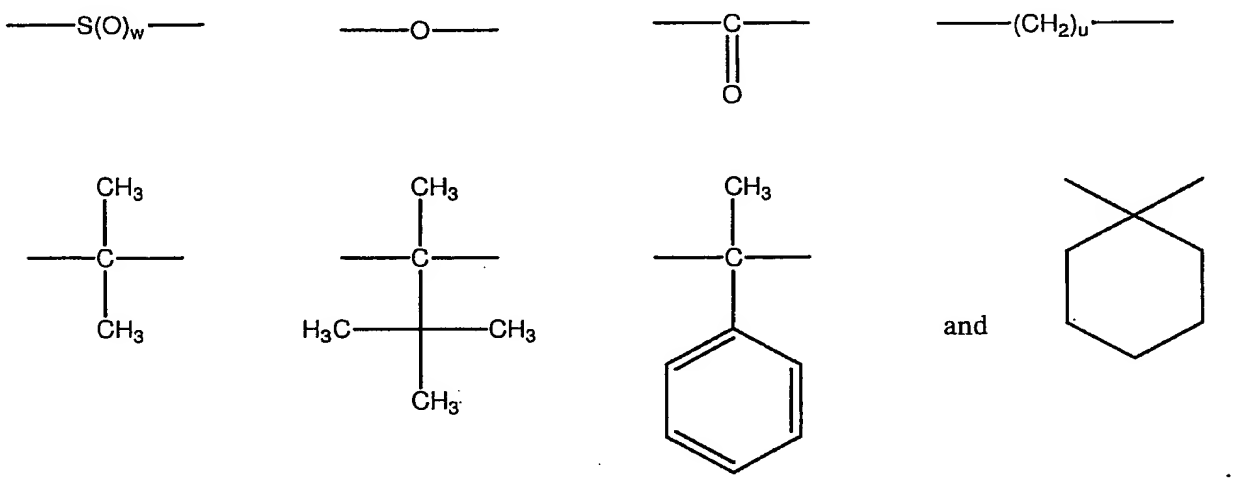
the phenol derivative is represented by Formula (IV):



(IV)

wherein:

A is selected from the group consisting of:

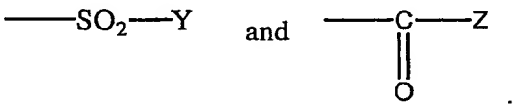


~~wherein~~ w is 0, 1, or 2; ~~and~~

u is 0 or 1;

R_{18}, R_{19}, R_{21} and R_{24} are ~~same or different~~ independently selected from the group consisting of: hydrogen, halogen, alkyl having 1 to 4 carbons and alkenyl having 2 to 4 carbons;

R_{17} is selected from the group consisting of:



~~wherein~~ Y and Z are selected from the group consisting of:

alkyl having 1 to 6 carbons,

alkenyl having 2 to 6 carbons,

cyclohexyl optionally substituted with alkyl having 1 to 4 carbons or alkenyl having 2 to 4 carbons or alkoxy having 1 to 4 carbons or hydroxyl or halogen,

cyclopentyl optionally substituted with alkyl having 1 to 4 carbons or alkenyl having 2 to 4 carbons or alkoxy having 1 to 4 carbons or hydroxyl or halogen,

phenyl optionally substituted with alkyl having 1 to 4 carbons or alkenyl having 2 to 4 carbons or alkoxy having 1 to 4 carbons or halogen,

benzyl optionally substituted with alkyl having 1 to 4 carbons or alkenyl having 2 to 4 carbons or alkoxy having 1 to 4 carbons or hydroxyl or halogen,

phenethyl optionally substituted with alkyl having 1 to 4 carbons or alkenyl having 2 to 4 carbons or alkoxy having 1 to 4 carbons or hydroxyl or halogen,

α -methylbenzyl optionally substituted with alkyl having 1 to 4 carbons or alkenyl having 2 to 4 carbons or alkoxy having 1 to 4 carbons or hydroxyl or halogen, and

naphthyl optionally substituted with alkyl having 1 to 4 carbons or alkenyl having 2 to 4 carbons or alkoxy having 1 to 4 carbons or hydroxyl or halogen;~~, and~~

R_{20}, R_{22}, and R_{23} are ~~same or different~~ independently selected from the group consisting of: hydrogen, halogen, alkyl having 1 to 4 carbons, alkenyl having 2 to 4 carbons, alkoxy having 1 to 4 carbons, $-SO_2-Y$, and $-C(=O)-Z$;~~, wherein Y and Z are as defined above, and~~

when A is $-(CH_2)_u-$, at least one of R_{17}, R_{20}, R_{22} and R_{23} is $-SO_2-Y$; and~~, wherein Y is as defined above, and~~

~~an~~ the organic compound is selected from the group consisting of: antibacterial agents, antifungal agents, insecticides, noxious insect repellants, perfumes, deodorants, antifouling agents, curing agents for coating materials, accelerators for coating materials, resins, adhesives, natural essential oils, antioxidants, and vulcanization accelerators ~~under conditions sufficient to from the molecular compound selected from the group consisting of: hydrates, solvates, adducts, and clathrate compounds having the phenol derivative as a constituent, the constituent being a host~~, and

~~the organic compound is selected from the group consisting of: alcohols: isopropanol, n-butanol, n-octanol, 2-ethylhexanol, allyl alcohol, propargyl alcohol, 1,2-butanediol, 1,3-butanediol, 1,4-butanediol, cyclohexanediol, 2-bromo-2-nitropropane-1,3-diol, 2,2-dibromo-2-nitro ethanol and 4-chlorophenyl-3-iodopropargyl formal; aldehydes:~~

~~formaldehyde, acetaldehyde, n-butylaldehyde, propionaldehyde, benzaldehyde, phthalaldehyde, alpha-bromocynnamaldehyde and phenylacetaldehyde; ketones: cyclohexanone, acetyl acetone and 2-bromo-4'-hydroxyacetophenone; nitriles: acrylonitrile, n-butylonitrile, malononitrile, phenylacetonitrile, benzonitrile, cyanopyridine, 2,2-dibromomethylglutaronitrile, 2,3,5,6-tetrachloroisophthalonitrile, 5-chloro-2,4,6-trifluoroisophthalonitrile and 1,2-dibromo-2,4-dicyanobutane; ethers: dioxolane and trioxane; esters: bis-1,4-bromoacetoxy-2-butene; sulfone amides: benzene sulfone amide; amides: dicyane diamide, dibromonitrile propionamide, 2,2-dibromo-3-nitrilo propionamide and N,N-diethyl-m-toluamide; lactams: epsilon-caprolactam; lactones: epsilon-caprolactone; oxyranes: arylglycidyl ether; morphorines; phenols: phenol, cresol, resorcinol and p-chloro-m-cresol; carboxylic acids and thiocarboxylic acids: formic acid, acetic acid, propionic acid, oxalic acid, citric acid, adipic acid, tartaric acid, benzoic acid, phthalic acid and salicylic acid; sulfaminic acids; thiocarbamic acids; thiosemicarbazides; ureas and thioureas: urea, phenylurea, diphenylurea, thiourea, phenylthiourea, diphenylthiourea and N,N-dimethyldichlorophenylurea; isothioureas; sulfonylureas; thiols: thiophenol, allyl mercaptan, n-butyl mercaptan and benzyl mercaptan; sulfides: benzyl sulfide and butyl methyl sulfide; disulfides: dibutyl disulfide, dibenzyl disulfide and tetramethylthiuram disulfide; sulfoxides: dimethyl sulfoxide, dibutyl sulfoxide and dibenzyl sulfoxide; sulfones: dimethyl sulfone, phenyl sulfone, phenyl (2-cyano-2-chlorovinyl) sulfone, hexabromodimethyl sulfone and diiodomethylparatolyl sulfone; thiocyanic acids and isothiocyanic acids: methyl thiocyanate and methyl isothiocyanate; amino acids: glycine, alanine, leucine, lysine, methionine and glutamine; amides and urethane compounds; acid anhydrides; alkynes; isocyanates: butyl isocyanate, cyclohexyl isocyanate and phenyl isocyanate; thiocyanates and isothiocyanates: methylene bisthiocyanate and methylene bisisothiocyanate; nitro compounds: tris(hydroxymethyl)nitromethane; non-cyclic-aliphatic-amines: ammonia, methylamine, ethylamine, propylamine, butylamine, pentylamine, hexylamine, allylamine, hydroxylamine,~~

~~ethanolamine, benzylamine, ethylenediamine, 1,2-propanediamine, 1,3-propanediamine, 1,4-butanediamine, 1,5-pentanediamine, 1,6-hexanediamine, diethylenetriamine, triethylenetetramine, tetraethylenepentamine, dipropylenediamine, N-N-dimethylethylenediamine, N,N'-dimethylethylenediamine, N,N-dimethyl-1,3-propanediamine, N-ethyl-1,3-propanediamine, trimethylhexamethylenediamine, alkyl-t-monoamine, menthanediamine, isophoronediamine, guanidine and N-(2-hydroxypropyl)amino methanol; cyclic aliphatic amines: cyclohexylamine, cyclohexanediamine, bis(4-aminocyclohexyl)methane, pyrrolidines, azetidines, piperidines, piperadines: piperadine, N-aminoethylpiperadine and N,N'-dimethylpiperadine, and pyrrolines; aromatic amines: aniline, N-methylaniline, N,N-dimethylaniline, o-phenylenediamine, m-phenylenediamine, p-phenylenediamine, diaminodiphenylmethane, diaminodiphenyl sulfone and m-xylenediamine; modified polyamines: epoxy compound-added polyamines, Micheul-added polyamines, Mannich-added polyamines, thiourea-added polyamines and ketone-blocked polyamines; imidazoles: imidazole, 2-methylimidazole, 2-ethylimidazole, 2-isopropylimidazole, 2-n-propylimidazole, 2-ethyl-4-methylimidazole, 1-benzyl-2-methylimidazole, 2-undecyl-1H-imidazole, 2-heptadecyl-1H-imidazole, 2-phenyl-1H-imidazole, 4-methyl-2-phenyl-1H-imidazole and 1-benzyl-2-methylimidazole; heterocyclic compounds containing nitrogen: pyrrole, pyridine, picoline, pyrazine, pyridazine, pyrimidine, pyrazole, triazole, benzotriazole, triazine, tetrazole, purine, indole, quinoline, isoquinoline, carbazole, imidazoline, pyrroline, oxazole, piperine, pyrimidine, piridazine, benzimidazole, indazole, quinazoline, quinoxaline, phthalimide, adenine, cytosine, guanine, uracil, 2-methoxycarbonylbenzimidazole, 2,3,5,6-tetrachloro-4-methanesulfonylpyridine, 2,2-dithio-bis-(pyridine-1-oxide), N-methylpyrrolidone, 2-benzimidazole, methyl carbamate, sodium 2-pyridinethiol-1-oxide, hexahydro-1,3,5-tris(2-hydroxyethyl)-s-triazine, hexahydro-1,3,5-triethyl-s-triazine, 2-methylthio-4-t-butylamino-6-cyclopropylamino-s-triazine, N-(fluorodichloromethylthio)phthalimide, 1-bromo-3-chloro-5,5-~~

~~dimethylhydantoin, 2-methoxycarbonylbenzimidazole and 2,4,6-trichlorophenylmaleimide; heterocyclic compounds containing oxygen: furan, furfuryl alcohol, tetrahydrofurfuryl alcohol, furfurylamine, pyrane, coumarin, benzofuran, xanthene and benzodioxane; heterocyclic compounds containing nitrogen and oxygen: oxazole, isooxazole, benzoxazole, benzoisooxazole, 5-methyloxazolidine, 4-(2-nitrobutyl)morpholine and 4,4'-(2-ethyl-2-nitrotrimethylene)dimorpholine; heterocyclic compounds containing sulfur: thiophene, 3,3,4,4-tetrahydrothiophene-1,1-dioxide, 4,5-dichloro-1,2-dithiolan-3-one, 5-chrolo-4-phenyl-1,2-dithiolan-3-one and 3,3,4,4-tetrachlorotetrahydrothiophene-1,1-dioxide; heterocyclic compounds containing nitrogen and sulfur: thiazole, benzothiazole, 5-chloro-2-methyl-4-isothiazolin-3-one, 2-methyl-4-isothiazolin-3-one, 4,5-dichloro-3-n-octylisothiazolin-3-one, 2-octyl-4-isothiazolin-3-one, 1,2-benzisothiazolin-3-one, 2-thiocyanomethylbenzothiazole, 2-(4-thiazolyl)benzimidazole and 2-thiocyanomethylbenzothiazole; steroids: cholesterol; alkaloids: brucine, quinine and theophylline; natural essential oils: cineol, hinokitiol, menthol, terpineol, borneol, nopol, citral, citronellol, citronellal, geraniol, menthone, eugenol, linalool and dimethyloctanol; synthetic perfumes: fragrant olive, jasmine and lemon; vitamins and related compounds: ascorbic acid, nicotinic acid and nicotinamide.~~

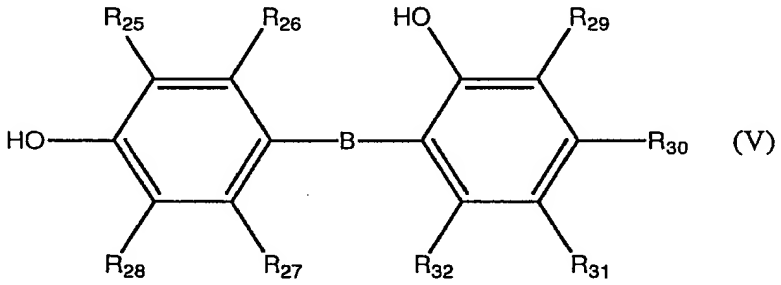
the organic compound is selected from the group consisting of alcohols, aldehydes, ketones, nitriles, ethers, esters, sulfone amides, amides, lactams, lactones, oxyranes, morphorines, carboxylic acids, thiocarboxylic acids, sulfaminic acids, thiocarbamic acids, thiosemicarbazides, ureas, thioureas, isothioureas, sulfonylureas, thiols, sulfides, disulfides, sulfoxides, sulfones, thiocyanic acids, isothiocyanic acids, amino acids, amides, urethane compounds, acid anhydrides, alkynes, isocyanates, thiocyanates, isothiocyanates, nitro compounds, non-cyclic aliphatic amines, cyclic aliphatic amines, aromatic amines, modified polyamines, imidazoles, heterocyclic compounds containing nitrogen, heterocyclic compounds containing oxygen, heterocyclic compounds containing nitrogen and oxygen,

heterocyclic compounds containing sulfur, heterocyclic compounds containing nitrogen and sulfur, steroids, alkaloids, natural essential oils, synthetic perfumes, and vitamins.

44. (Withdrawn-Currently Amended) A method for producing a ~~molecular~~ clathrate compound ~~selected from the group consisting of hydrates, solvates, adducts, and clathrate compounds~~, comprising:

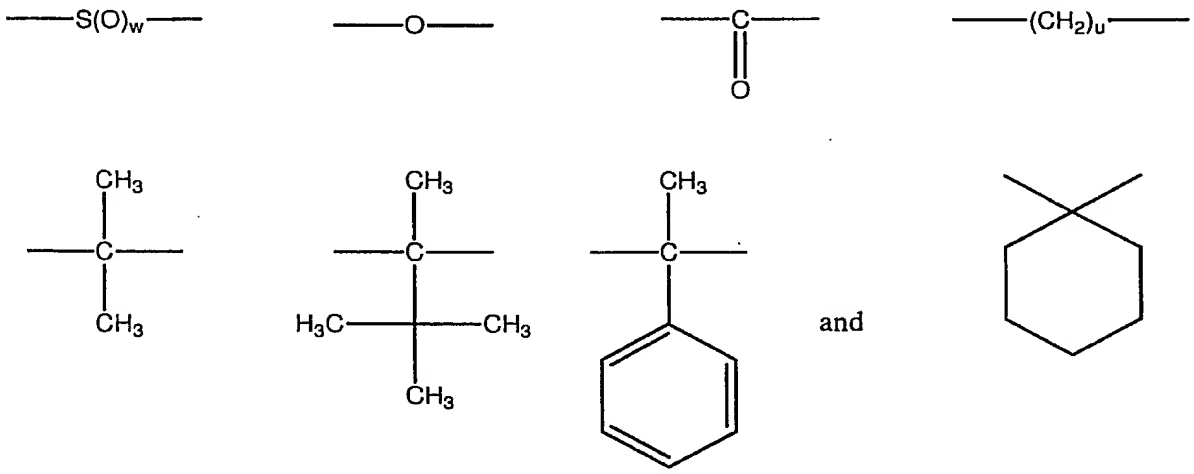
reacting a phenol derivative with an organic compound under conditions sufficient to form the clathrate compounds having the phenol derivative as a constituent, the constituent being a host; wherein:

the phenol derivative is represented by Formula (V):



(V)

B is selected from the group consisting of:

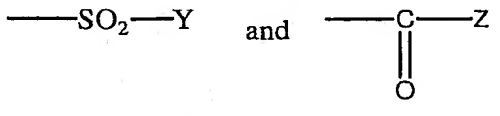


~~wherein~~ w is 0, 1, or 2; ~~and~~

u is 0 or 1;

R_{26}, R_{27}, R_{30} and R_{32} are ~~same or different~~ independently selected from the group consisting of: hydrogen, halogen, alkyl having 1 to 4 carbons, and alkenyl having 2 to 4 carbons;

R_{25}, R_{28}, R_{29} and R_{31} are ~~same or different~~ independently groups selected from the group consisting of: hydrogen, halogen, alkyl having 1 to 4 carbons, alkenyl having 2 to 4 carbons, alkoxy having 1 to 4 carbons,



and

;

~~wherein~~ Y and Z are selected from the group consisting of:

alkyl having 1 to 6 carbons,

alkenyl having 2 to 6 carbons,

cyclohexyl which may have alkyl having 1 to 4 carbons or alkenyl having 2 to 4 carbons or alkoxy having 1 to 4 carbons or hydroxyl or halogen,

cyclopentyl which may have alkyl having 1 to 4 carbons or alkenyl having 2 to 4 carbons or alkoxy having 1 to 4 carbons or hydroxyl or halogen,

phenyl which may have alkyl having 1 to 4 carbons or alkenyl having 2 to 4 carbons or alkoxy having 1 to 4 carbons or halogen,

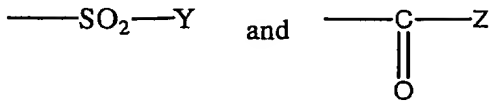
benzyl which may have alkyl having 1 to 4 carbons or alkenyl having 2 to 4 carbons or alkoxy having 1 to 4 carbons or hydroxyl or halogen,

phenethyl which may have alkyl having 1 to 4 carbons or alkenyl having 2 to 4 carbons or alkoxy having 1 to 4 carbons or hydroxyl or halogen,

α -methylbenzyl which may have alkyl having 1 to 4 carbons or alkenyl having 2 to 4 carbons or alkoxy having 1 to 4 carbons or hydroxyl or halogen, and

naphthyl which may have alkyl having 1 to 4 carbons or alkenyl having 2 to 4 carbons or alkoxy having 1 to 4 carbons or hydroxyl or halogen; ~~, and~~

at least one of R_{25}, R_{28}, and R_{29} is selected from the group consisting of:



~~wherein Y and Z are as defined above, and~~

when B is $-(CH_2)_u-$, at least one of R_{25}, R_{28}, R_{29} and R_{31} is $-SO_2-Y$; and ~~wherein Y is defined as above, and~~

~~an~~ the organic compound is selected from the group consisting of: antibacterial agents, antifungal agents, insecticides, noxious insect repellants, perfumes, deodorants, antifouling agents, curing agents for coating materials, accelerators for coating materials, resins, adhesives, natural essential oils, antioxidants, and vulcanization accelerators ~~under conditions sufficient to from the molecular compound selected from the group consisting of: hydrates, solvates, adducts, and clathrate compounds having the phenol derivative as a constituent, the constituent being a host~~, and

~~the organic compound is selected from the group consisting of: alcohols: isopropanol, n-butanol, n-octanol, 2-ethylhexanol, allyl alcohol, propargyl alcohol, 1,2-butanediol, 1,3-butanediol, 1,4-butanediol, cyclohexanediol, 2-bromo-2-nitropropane-1,3-diol, 2,2-dibromo-2-nitro ethanol and 4-chlorophenyl-3-iodopropargyl formal; aldehydes: formaldehyde, acetaldehyde, n-butylaldehyde, propionaldehyde, benzaldehyde, phthalaldehyde, alpha-bromocynnamaldehyde and phenylacetaldehyde; ketones: cyclohexanone, acetyl-acetone and 2-bromo-4'-hydroxyacetophenone; nitriles: acrylonitrile, n-butylonitrile, malononitrile, phenylacetonitrile, benzonitrile, cyanopyridine, 2,2-dibromomethylglutaronitrile, 2,3,5,6-tetrachloroisophthalonitrile, 5-chloro-2,4,6-trifluoroisophthalonitrile and 1,2-dibromo-2,4-dicyanobutane; ethers: dioxolane and trioxane; esters: bis-1,4-bromoacetoxy-2-butene; sulfone amides: benzene-sulfone-amide; amides: dicyane diamide, dibromonitrile propionamide, 2,2-dibromo-3-nitrilo propionamide and N,N-diethyl-m-toluamide; lactams: epsilon-caprolactam;~~

~~lactones: epsilon -caprolactone; oxyranes: arylglycidyl ether; morphorines; phenols: phenol, cresol, resorcinol and p-chloro-m-cresol; carboxylic acids and thiocarboxylic acids: formic acid, acetic acid, propionic acid, oxalic acid, citric acid, adipic acid, tartaric acid, benzoic acid, phthalic acid and salicylic acid; sulfaminic acids; thiocarbamic acids; thiosemicarbazides; ureas and thioureas: urea, phenylurea, diphenylurea, thiourea, phenylthiourea, diphenylthiourea and N,N-dimethyldichlorophenylurea; isothioureas; sulfonylureas; thiols: thiophenol, allyl mercaptan, n-butyl mercaptan and benzyl mercaptan; sulfides: benzyl sulfide and butyl methyl sulfide; disulfides: dibutyl disulfide, dibenzyl disulfide and tetramethylthiuram disulfide; sulfoxides: dimethyl sulfoxide, dibutyl sulfoxide and dibenzyl sulfoxide; sulfones: dimethyl sulfone, phenyl sulfone, phenyl (2-cyano-2-chlorovinyl) sulfone, hexabromodimethyl sulfone and diiodomethylparatolyl sulfone; thiocyanic acids and isothiocyanic acids: methyl thiocyanate and methyl isothiocyanate; amino acids: glycine, alanine, leucine, lysine, methionine and glutamine; amides and urethane compounds; acid anhydrides; alkynes; isocyanates: butyl isocyanate, cyclohexyl isocyanate and phenyl isocyanate; thiocyanates and isothiocyanates: methylene bisthiocyanate and methylene bisisothiocyanate; nitro compounds: tris(hydroxymethyl)nitromethane; non-cyclic aliphatic amines: ammonia, methylamine, ethylamine, propylamine, butylamine, pentylamine, hexylamine, allylamine, hydroxylamine, ethanolamine, benzylamine, ethylenediamine, 1,2-propanediamine, 1,3-propanediamine, 1,4-butanediamine, 1,5-pentanediamine, 1,6-hexanediamine, diethylenetriamine, triethylenetetramine, tetraethylenepentamine, dipropylenediamine, N,N-dimethylethylenediamine, N,N'-dimethylethylenediamine, N,N-dimethyl-1,3-propanediamine, N-ethyl-1,3-propanediamine, trimethylhexamethylenediamine, alkyl-t-monoamine, menthanediamine, isophoronediamine, guanidine and N-(2-hydroxypropyl)amino methanol; cyclic aliphatic amines: cyclohexylamine, cyclohexanediamine, bis(4-aminocyclohexyl)methane, pyrrolidines, azetidines, piperidines, piperadines: piperadine, N-aminoethylpiperadine and N,N'-~~

~~dimethylpiperadine, and pyrrolines; aromatic amines: aniline, N-methylaniline, N,N-dimethylaniline, o-phenylenediamine, m-phenylenediamine, p-phenylenediamine, diaminodiphenylmethane, diaminodiphenyl sulfone and m-xylenediamine; modified polyamines: epoxy compound-added polyamines, Micheul-added polyamines, Mannich-added polyamines, thiourea-added polyamines and ketone-blocked polyamines; imidazoles: imidazole, 2-methylimidazole, 2-ethylimidazole, 2-isopropylimidazole, 2-n-propylimidazole, 2-ethyl-4-methylimidazole, 1-benzyl-2-methylimidazole, 2-undecyl-1H-imidazole, 2-heptadecyl-1H-imidazole, 2-phenyl-1H-imidazole, 4-methyl-2-phenyl-1H-imidazole and 1-benzyl-2-methylimidazole; heterocyclic compounds containing nitrogen: pyrrole, pyridine, picoline, pyrazine, pyridazine, pyrimidine, pyrazole, triazole, benzotriazole, triazine, tetrazole, purine, indole, quinoline, isoquinoline, carbazole, imidazoline, pyrroline, oxazole, piperine, pyrimidine, piridazine, benzimidazole, indazole, quinazoline, quinoxaline, phthalimide, adenine, cytosine, guanine, uracil, 2-methoxycarbonylbenzimidazole, 2,3,5,6-tetrachloro-4-methanesulfonylpyridine, 2,2-dithio-bis-(pyridine-1-oxide), N-methylpyrrolidone, 2-benzimidazole, methyl carbamate, sodium 2-pyridinethiol-1-oxide, hexahydro-1,3,5-tris(2-hydroxyethyl)-s-triazine, hexahydro-1,3,5-triethyl-s-triazine, 2-methylthio-4-t-butylamino-6-cyclopropylamino-s-triazine, N-(fluorodichloromethylthio)phthalimide, 1-bromo-3-chloro-5,5-dimethylhydantoin, 2-methoxycarbonylbenzimidazole and 2,4,6-trichlorophenylmaleimide; heterocyclic compounds containing oxygen: furan, furfuryl alcohol, tetrahydrofurfuryl alcohol, furfurylamine, pyrane, coumarin, benzofuran, xanthene and benzodioxane; heterocyclic compounds containing nitrogen and oxygen: oxazole, isooxazole, benzoxazole, benzoisooxazole, 5-methyloxazolidine, 4-(2-nitrobutyl)morpholine and 4,4'-(2-ethyl-2-nitrotrimethylene)dimorpholine; heterocyclic compounds containing sulfur: thiophene, 3,3,4,4-tetrahydrothiophene-1,1-dioxide, 4,5-dichloro-1,2-dithiolan-3-one, 5-chrolo-4-phenyl-1,2-dithiolan-3-one and 3,3,4,4-tetrachlorotetrahydrothiophene-1,1-dioxide; heterocyclic compounds~~

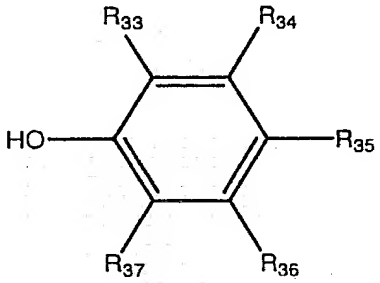
~~containing nitrogen and sulfur: thiazole, benzothiazole, 5-chloro-2-methyl-4-isothiazolin-3-one, 2-methyl-4-isothiazolin-3-one, 4,5-dichloro-3-n-octylisothiazolin-3-one, 2-octyl-4-isothiazolin-3-one, 1,2-benzisothiazolin-3-one, 2-thiocyanomethylbenzothiazole, 2-(4-thiazolyl)benzimidazole and 2-thiocyanomethylbenzothiazole; steroids: cholesterol; alkaloids: brucine, quinine and theophylline; natural essential oils: cineol, hinokitiol, menthol, terpineol, borneol, nopol, citral, citronellol, citronellal, geraniol, menthone, eugenol, linalool and dimethyloctanol; synthetic perfumes: fragrant olive, jasmine and lemon; vitamins and related compounds: ascorbic acid, nicotinic acid and nicotinamide.~~

the organic compound is selected from the group consisting of alcohols, aldehydes, ketones, nitriles, ethers, esters, sulfone amides, amides, lactams, lactones, oxyranes, morphorines, carboxylic acids, thiocarboxylic acids, sulfaminic acids, thiocarbamic acids, thiosemicarbazides, ureas, thioureas, isothioureas, sulfonylureas, thiols, sulfides, disulfides, sulfoxides, sulfones, thiocyanic acids, isothiocyanic acids, amino acids, amides, urethane compounds, acid anhydrides, alkynes, isocyanates, thiocyanates, isothiocyanates, nitro compounds, non-cyclic aliphatic amines, cyclic aliphatic amines, aromatic amines, modified polyamines, imidazoles, heterocyclic compounds containing nitrogen, heterocyclic compounds containing oxygen, heterocyclic compounds containing nitrogen and oxygen, heterocyclic compounds containing sulfur, heterocyclic compounds containing nitrogen and sulfur, steroids, alkaloids, natural essential oils, synthetic perfumes, and vitamins.

45. (Withdrawn-Currently Amended) A method for producing a ~~molecular~~ clathrate compound ~~selected from the group consisting of hydrates, solvates, adducts, and clathrate compounds~~, comprising:

reacting a phenol derivative with an organic compound under conditions sufficient to form the clathrate compounds having the phenol derivative as a constituent, the constituent being a host; wherein:

the phenol derivative is represented by Formula (VI):



(VI)

wherein:

~~R_{33} is $-SO_2-Y$;~~

R_{33} is $-SO_2-Y$;

~~wherein~~ Y is selected from the group consisting of:

alkyl having 1 to 6 carbons,

alkenyl having 2 to 6 carbons,

cyclohexyl optionally substituted with alkyl having 1 to 4 carbons or alkenyl having 2 to 4 carbons or alkoxy having 1 to 4 carbons or hydroxyl or halogen,

cyclopentyl optionally substituted with alkyl having 1 to 4 carbons or alkenyl having 2 to 4 carbons or alkoxy having 1 to 4 carbons or hydroxyl or halogen,

phenyl optionally substituted with alkyl having 1 to 4 carbons or alkenyl having 2 to 4 carbons or alkoxy having 1 to 4 carbons or halogen,

benzyl optionally substituted with alkyl having 1 to 4 carbons or alkenyl having 2 to 4 carbons or alkoxy having 1 to 4 carbons or hydroxyl or halogen,

phenethyl optionally substituted with alkyl having 1 to 4 carbons or alkenyl having 2 to 4 carbons or alkoxy having 1 to 4 carbons or hydroxyl or halogen,

α-methylbenzyl optionally substituted with alkyl having 1 to 4 carbons or alkenyl having 2 to 4 carbons or alkoxy having 1 to 4 carbons or hydroxyl or halogen, and

naphthyl optionally substituted with alkyl having 1 to 4 carbons or alkenyl having 2 to 4 carbons or alkoxy having 1 to 4 carbons or hydroxyl or halogen;~~, and~~

R_{34}, R_{35}, R_{36}, and R_{37} are ~~the same or different~~ independently selected from the group consisting of: hydrogen, alkyl having 1 to 4 carbons, alkenyl having 2 to 4 carbons, alkoxy having 1 to 4 carbons, hydroxyl, halogen and $-SO_2-Y$;~~, wherein Y is as defined above,~~ and

~~an~~ the organic compound is selected from the group consisting of: antibacterial agents, antifungal agents, insecticides, noxious insect repellants, perfumes, deodorants, antifouling agents, curing agents for coating materials, accelerators for coating materials, resins, adhesives, natural essential oils, antioxidants, and vulcanization accelerators ~~under conditions sufficient to from the molecular compound selected from the group consisting of: hydrates, solvates, adducts, and clathrate compounds having the phenol derivative as a constituent, the constituent being a host~~, and

~~the organic compound is selected from the group consisting of: alcohols: isopropanol, n-butanol, n-octanol, 2-ethylhexanol, allyl alcohol, propargyl alcohol, 1,2-butanediol, 1,3-butanediol, 1,4-butanediol, cyclohexanediol, 2-bromo-2-nitropropane-1,3-diol, 2,2-dibromo-2-nitro ethanol and 4-chlorophenyl-3-iodopropargyl formal; aldehydes: formaldehyde, acetaldehyde, n-butylaldehyde, propionaldehyde, benzaldehyde, phthalaldehyde, alpha-bromocynnamaldehyde and phenylacetaldehyde; ketones: cyclohexanone, acetyl acetone and 2-bromo-4'-hydroxyacetophenone; nitriles: acrylonitrile, n-butylonitrile, malononitrile, phenylacetonitrile, benzonitrile, cyanopyridine, 2,2-dibromomethylglutaronitrile, 2,3,5,6-tetrachloroisophthalonitrile, 5-chloro-2,4,6-trifluoroisophthalonitrile and 1,2-dibromo-2,4-dicyanobutane; ethers: dioxolane and trioxane; esters: bis-1,4-bromoacetoxy-2-butene; sulfone amides: benzene sulfone amide; amides: dicyane diamide, dibromonitrile propionamide, 2,2-dibromo-3-nitrilo propionamide and N,N-diethyl-m-toluamide; lactams: epsilon-caprolactam; lactones: epsilon-caprolactone; oxyranes: arylglycidyl ether; morphorines; phenols: phenol,~~

~~cresol, resorcinol and p-chloro-m-cresol; carboxylic acids and thiocarboxylic acids: formic acid, acetic acid, propionic acid, oxalic acid, citric acid, adipic acid, tartaric acid, benzoic acid, phthalic acid and salicylic acid; sulfaminic acids; thiocarbamic acids; thiosemicarbazides; ureas and thioureas: urea, phenylurea, diphenylurea, thiourea, phenylthiourea, diphenylthiourea and N,N-dimethyldichlorophenylurea; isothioureas; sulfonylureas; thiols: thiophenol, allyl mercaptan, n-butyl mercaptan and benzyl mercaptan; sulfides: benzyl sulfide and butyl methyl sulfide; disulfides: dibutyl disulfide, dibenzyl disulfide and tetramethylthiuram disulfide; sulfoxides: dimethyl sulfoxide, dibutyl sulfoxide and dibenzyl sulfoxide; sulfones: dimethyl sulfone, phenyl sulfone, phenyl (2-cyano-2-chlorovinyl) sulfone, hexabromodimethyl sulfone and diiodomethylparatolyl sulfone; thiocyanic acids and isothiocyanic acids: methyl thiocyanate and methyl isothiocyanate; amino acids: glycine, alanine, leucine, lysine, methionine and glutamine; amides and urethane compounds; acid anhydrides; alkynes; isocyanates: butyl isocyanate, cyclohexyl isocyanate and phenyl isocyanate; thiocyanates and isothiocyanates: methylene bisthiocyanate and methylene bisisothiocyanate; nitro compounds: tris(hydroxymethyl)nitromethane; non-cyclic aliphatic amines: ammonia, methylamine, ethylamine, propylamine, butylamine, pentylamine, hexylamine, allylamine, hydroxylamine, ethanolamine, benzylamine, ethylenediamine, 1,2-propanediamine, 1,3-propanediamine, 1,4-butanediamine, 1,5-pentanediamine, 1,6-hexanediamine, diethylenetriamine, triethylenetetramine, tetraethylenepentamine, dipropylenediamine, N-N-dimethylethylenediamine, N,N'-dimethylethylenediamine, N,N-dimethyl-1,3-propanediamine, N-ethyl-1,3-propanediamine, trimethylhexamethylenediamine, alkyl-t-monoamine, menthanediamine, isophoronediamine, guanidine and N-(2-hydroxypropyl)amino-methanol; cyclic aliphatic amines: cyclohexylamine, cyclohexanediamine, bis(4-aminocyclohexyl)methane, pyrrolidines, azetidines, piperidines, piperadines: piperadine, N-aminoethylpiperadine and N,N'-dimethylpiperadine, and pyrrolines; aromatic amines: aniline, N-methylaniline, N,N-~~

~~dimethylaniline, o-phenylenediamine, m-phenylenediamine, p-phenylenediamine, diaminodiphenylmethane, diaminodiphenyl sulfone and m-xylenediamine; modified polyamines: epoxy compound-added polyamines, Micheul-added polyamines, Mannich-added polyamines, thiourea-added polyamines and ketone-blocked polyamines; imidazoles: imidazole, 2-methylimidazole, 2-ethylimidazole, 2-isopropylimidazole, 2-n-propylimidazole, 2-ethyl-4-methylimidazole, 1-benzyl-2-methylimidazole, 2-undecyl-1H-imidazole, 2-heptadecyl-1H-imidazole, 2-phenyl-1H-imidazole, 4-methyl-2-phenyl-1H-imidazole and 1-benzyl-2-methylimidazole; heterocyclic compounds containing nitrogen: pyrrole, pyridine, picoline, pyrazine, pyridazine, pyrimidine, pyrazole, triazole, benzotriazole, triazine, tetrazole, purine, indole, quinoline, isoquinoline, carbazole, imidazoline, pyrroline, oxazole, piperine, pyrimidine, piridazine, benzimidazole, indazole, quinazoline, quinoxaline, phthalimide, adenine, cytosine, guanine, uracil, 2-methoxycarbonylbenzimidazole, 2,3,5,6-tetrachloro-4-methanesulfonylpyridine, 2,2-dithio-bis-(pyridine-1-oxide), N-methylpyrrolidone, 2-benzimidazole, methyl carbamate, sodium 2-pyridinethiol-1-oxide, hexahydro-1,3,5-tris(2-hydroxyethyl)-s-triazine, hexahydro-1,3,5-triethyl-s-triazine, 2-methylthio-4-t-butylamino-6-cyclopropylamino-s-triazine, N-(fluorodichloromethylthio)phthalimide, 1-bromo-3-chloro-5,5-dimethylhydantoin, 2-methoxycarbonylbenzimidazole and 2,4,6-trichlorophenylmaleimide; heterocyclic compounds containing oxygen: furan, furfuryl alcohol, tetrahydrofurfuryl alcohol, furfurylamine, pyrane, coumarin, benzofuran, xanthene and benzodioxane; heterocyclic compounds containing nitrogen and oxygen: oxazole, isooxazole, benzoxazole, benzoisooxazole, 5-methyloxazolidine, 4-(2-nitrobutyl)morpholine and 4,4'-(2-ethyl-2-nitrotrimethylene)dimorpholine; heterocyclic compounds containing sulfur: thiophene, 3,3,4,4-tetrahydrothiophene-1,1-dioxide, 4,5-dichloro-1,2-dithiolan-3-one, 5-chrolo-4-phenyl-1,2-dithiolan-3-one and 3,3,4,4-tetrachlorotetrahydrothiophene-1,1-dioxide; heterocyclic compounds containing nitrogen and sulfur: thiazole, benzothiazole, 5-chloro-2-methyl-4-isothiazolin-3-one,~~

~~2-methyl-4-isothiazolin-3-one, 4,5-dichloro-3-n-octylisothiazolin-3-one, 2-octyl-4-isothiazolin-3-one, 1,2-benzisothiazolin-3-one, 2-thiocyanomethylbenzothiazole, 2-(4-thiazolyl)benzimidazole and 2-thiocyanomethylbenzothiazole; steroids: cholesterol; alkaloids: brucine, quinine and theophylline; natural essential oils: cineol, hinokitiol, menthol, terpineol, borneol, nopol, citral, citronellol, citronellal, geraniol, menthone, eugenol, linalool and dimethyloctanol; synthetic perfumes: fragrant olive, jasmine and lemon; vitamins and related compounds: ascorbic acid, nicotinic acid and nicotinamide.~~

the organic compound is selected from the group consisting of alcohols, aldehydes, ketones, nitriles, ethers, esters, sulfone amides, amides, lactams, lactones, oxyranes, morphorines, carboxylic acids, thiocarboxylic acids, sulfaminic acids, thiocarbamic acids, thiosemicarbazides, ureas, thioureas, isothioureas, sulfonylureas, thiols, sulfides, disulfides, sulfoxides, sulfones, thiocyanic acids, isothiocyanic acids, amino acids, amides, urethane compounds, acid anhydrides, alkynes, isocyanates, thiocyanates, isothiocyanates, nitro compounds, non-cyclic aliphatic amines, cyclic aliphatic amines, aromatic amines, modified polyamines, imidazoles, heterocyclic compounds containing nitrogen, heterocyclic compounds containing oxygen, heterocyclic compounds containing nitrogen and oxygen, heterocyclic compounds containing sulfur, heterocyclic compounds containing nitrogen and sulfur, steroids, alkaloids, natural essential oils, synthetic perfumes, and vitamins.